K 66

U.S. Department of the Interior
Bureau of Land Management

Klamath Falls Resource Area
2795 Anderson Aveneue, Bldg. 25
Klamath Falls, Oregon 97603

December 1990

Summary of the Analysis of the Management Situation

Klamath Falls Resource Area
Resource Management Plan

I 1.98:

READEX FICHE best copy available

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, proecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and provididing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. the Department also has a major responsiblity for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

BLM-OR-PT-91-2-1702

United States Department of the Interior
Bureau of Land Management

Klamath Falls Resource Area Office
Lakeview District Office

December 24, 1990

Dear Concerned Citizen:

This booklet contains a summary of our analysis of the management situation (AMS) for the resource management plan/environmental impact statement (RMP/EIS) we are preparing. The AMS pulls together important information about existing resource conditions, uses, and demands, as well as management activities and opportunities, and natural relationships. It provides the basis for subsequent steps in the planning process, such as the design of alternatives and the analysis of environmental consequences. The AMS also provides most of the data that will be summarized in the Affected Environment chapter of the RMP/EIS. This AMS Summary highlights the data in the AMS. The maps included in it are not detailed due to limitations of scale. The AMS and more detailed maps are available for review in the Klamath Falls Resource Area office.

Your comments on the information in the AMS Summary or the AMS will help us verify its accuracy. If you think we have overlooked any important information about BLM resources relevant to development of the plan, please let us know.

The timber section in this document is not complete. The omitted information will be mailed out in a supplementary mailer **only to those who request it** in early 1991. The supplement will include the 1988 timber inventory data, the highest potential sustained yearly timber sale volume, economic efficiency analyses on several silvicultural practices, the acreage of each silvicultural practice used to determine the annual sustained yield, and a summary of sensitivity analyses that will depict the effect that various management constraints, such as harvest age or size constraints, economic constraints, etc., would have on sustained yield levels.

In addition to your comments on the AMS and AMS Summary, we would also be interested in your suggestions for the criteria we should consider for the formulation of the preferred alternative. Appendix 3 in this summary sets forth State Director guidance regarding goals, objectives, and criteria for five "common" alternatives we propose to analyze in the EIS. The Klamath Falls Resource Area is different from the other western Oregon districts in that it encompasses land both in western Oregon (predominantly Oregon and California grant lands) and in eastern Oregon (large blocks of public domain lands); therefore, we have made some additions to the State Director guidance to reflect these differences. The additions are shown in bold print in Appendix 3.

Range management was identified in the scoping process for the Klamath Falls Resource Area RMP as a major issue. It is displayed under Issue 12 as an addition to Appendix 3. The proposed Salt Caves hydroelectric project on the upper Klamath River was also identified as a major issue in the scoping process. BLM action on granting rights-of-way for this project is displayed as an additional issue (Issue 13) in Appendix 3. Designation of the upper Klamath River in the National Wild and Scenic Rivers System is displayed across the alternatives under Issue 9A. If the status of the river changes during the course of the RMP preparation as a result of Congressional action, the RMP analysis will be adjusted to reflect that change.

The five "common" alternatives, as well as a no action (no change) alternative and a yet-to-be-selected preferred alternative, will be analyzed in the RMP/EISs being prepared by each of the six BLM western Oregon districts. If one of the outlined alternatives fits your objective for a preferred alternative, please let us know. Instead you may wish to suggest a preferred alternative that blends elements of several of the alternatives, including the no action alternative. As part of the preferred alternative, you may want to specify management opportunities identified in the AMS or AMS Summary, or include management opportunities you feel are relevant but are not identified in either document.

Obviously, the BLM must choose a preferred alternative that complies with legal requirements applicable to management of the lands it administers. Therefore, in presenting your suggestions for preferred alternative criteria, it would be helpful if you would relate how the preferred alternative, formulated from your suggested criteria, would achieve legally-required BLM objectives. For most BLM-administered lands west of Highway 97, these objectives are contained primarily in the O&C Act, and for lands east of Highway 97 in the Federal Land Policy and Management Act.

A worksheet for your use in commenting on the AMS and/or providing suggestions about the preferred alternative is inserted in the middle of this booklet.

Please send us your comments (whether you use the insert or not) by February 8, 1991, so we can consider them as we move ahead with our planning effort. After reviewing the comments, we will revise the AMS as appropriate, finish formulating alternatives, analyze their effects, and then select a preferred alternative. The Draft RMP/EIS reflecting these revisions and steps will be issued for public comment around the end of 1991.

For those who wish to discuss the information set forth in this booklet or the proposed plan alternatives, we have scheduled the following informal open houses:

January 22, 1991, 1:00 - 5:00 p.m.
January 31, 1991, 7:00 - 9:00 p.m.
at the
Klamath Falls Resource Area Orffice
2795 Anderson Avenue, Bldg. 25
Klamath Falls, OR 97602

Thanks for your help with this planning effort. We look forward to your continuing interest and participation. For additional information or clarification please contact Cathy Humphrey at (503) 883-6916.

Sincerely,

Judy Ellen Nelson

Judy Ellen Nelson
District Manager
Lakeview District

U.S. Department of the Interior
Bureau of Land Management
Lakeview District
Klamath Falls Resource Area
December 1990

Summary of the Analysis of the Management Situation

for the

Klamath Falls Resource Area Resource Management Plan

Contents

Page

Introduction 3
The Planning Area 3
Review of Existing Decisions 3
Air Resources 3
Soil Resources 8
Water Resources 11
Vegetation 16
Timber Resources 19
Animals 27
Cultural and Paleontological Resources 33
Special Areas 34
Recreation 41
Visual Resources 45
Wild and Scenic Rivers 45
Wilderness 49
Minerals 49
Lands and Rights-of-Way 49
Roads 52
Access 53
Fire 53
Socioeconomic Conditions 55
Rural Interface Areas 55
Livestock Grazing 56
Wild Horses 57
Interrelationships With Other Agencies 57
Appendix 1—The Resource Management Planning Process 61
Appendix 2—Public Involvement in the Process So Far 63
Appendix 3—Criteria for Proposed Alternatives 65

Maps

Map 1—General Location 2
Map 2—Land Status 4
Map 3—Sensitive Air Quality Areas 9
Map 4—Analytical and Community Watersheds 12
Map 5—Wildlife Habitat Features 30
Map 6—Potential Special Areas 38
Map 7—Recreation Sites 42
Map 8—Visually Sensitive Areas 46
Map 9—Wild, Scenic, and Recreational Rivers 50
Map 10—Livestock Grazing Allotment Boundaries 58

Tables

Table 1—Existing Decisions Valid Without Further Analysis 6
Table 2—Existing Decisions Valid Subject to Further Analysis 7
Table 3—Fragile Nonsuitable Woodland 10
Table 4—Fragile Suitable, Restricted Forest Land 10
Table 5—Analytical Watersheds 11
Table 6—Acres of Major Plant Groupings and Seral Stages 17
Table 7—Priority Plant Species 18
Table 8—Comparison of Resource Area Timber Inventory Data 1977 and 1988 20
Table 9—Reforestation Status as of October 1, 1988 21

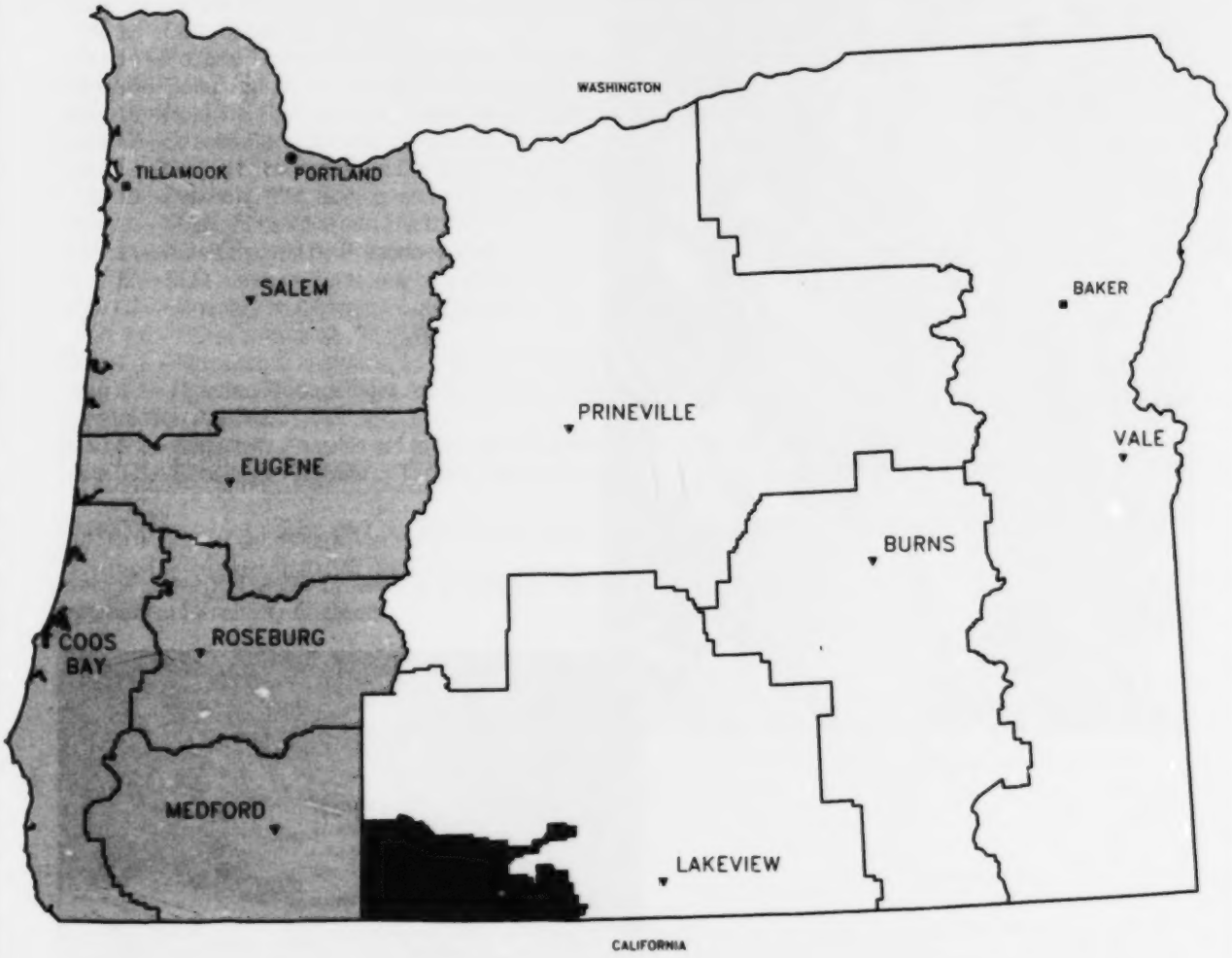
Page

Table 10—Timber Management and Forest Development 22
Table 11—Timber Productivity Capability Classification (TPCC) Summary as of October 1, 1988 24
Table 12—Timber Productivity Capability Classification (TPCC) Summary of 1977 26
Table 13—Special Habitat Features 27
Table 14—Federal Threatened, Endangered, or Candidate, and State Listed Species 27
Table 15—Results of ACEC Identification and Screening Process 35
Table 16—Potential Special Areas Other Than ACECs 40
Table 17—Special Recreation Management Areas 41
Table 18—Projected Increases in Demand for Recreation 44
Table 19—Potential Wild, Scenic, and Recreation Rivers 48
Table 20—Mineral Potential and Restrictions 52
Table 21—Acres Burned by Prescribed Fires 54
Table 22—BLM Acres in Rural Interface Areas 55
Table 23—Summary of Allotment Categorization 56

Table 1-1—Resource Management Planning Process 61
Table 3-1—Riparian Management Areas as They Relate to Timber Harvest and Road Construction Activities 75
Table 3-2—Sensitivity Analysis of Land Use Allocations (example) 82
Table 3-3—Sensitivity Analysis of Timber Management Prescriptions, Preferred Alternative (blank) 83

The following tables will be sent out in a supplementary mailer in early 1991:

Average Acreage Treated by Decade to Support Highest ASQ
Summary of Sensitivity Analyses



- BLM State Office
- BLM District Office
- BLM Resource Area Office
- District Boundary
- Klamath Falls Planning Area Boundary
- Klamath Falls Planning Area
- Other Western Oregon Resource Management Planning Areas

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

LAKEVIEW DISTRICT

MAP 1

GENERAL LOCATION
KLAMATH FALLS PLANNING AREA

Introduction

This document summarizes information identified in the Analysis of the Management Situation (AMS) for the Klamath Falls Resource Area (see map 1, opposite). This information includes existing resource conditions, current management direction, and potential management opportunities for maintaining or enhancing resources on BLM-administered lands. The AMS Summary provides the baseline for subsequent steps in the planning process, such as the design of alternatives and analysis of environmental consequences. It also provides most of the data that will be summarized in the affected environment chapter of the resource management plan/ environmental impact statement (RMP/EIS). Finally, it includes an appendix that describes the guidance for formulation of the alternatives that will be analyzed in the RMP/EIS.

Preparation of the portion of the AMS dealing with lands west of Highway 97 included the use of automated resource data from the western Oregon digital data base (WODDB) and the use of supporting geographic information system technology. Preparation of the portion of the AMS dealing with lands east of Highway 97 included the use of manually-generated resource data.

The Planning Area

The Klamath Falls RMP/EIS will analyze the impacts associated with management of the Klamath Falls Resource Area (KFRA). The resource area lands, also referred to as the planning area, consist of 212,000 acres of BLM-administered surface with BLM subsurface mineral estate, and 21,000 acres of BLM subsurface mineral estate only (private or state-owned surface). The resource area lands west of Highway 97, referred to in this document as the west side, are primarily revested Oregon and California (O&C) grant lands (46,000 of 51,000 total BLM acres). The resource area lands east of Highway 97, referred to in this document as the east side, are public domain lands (161,000 acres). All these lands are located in southern Klamath County. Map 2 shows general land status within the planning area.

Portions of the Rogue River, Fremont, and Winema National Forests and the Klamath Basin National Wildlife Refuge are the other major federal lands within the planning area.

Review of Existing Decisions

Existing decisions and information in related environmental documents have been reviewed to determine which remain valid and may be continued through the 1990s. This review followed the requirements of Bureau of Land Management (BLM) Manual 1618.2. Not included in the review were existing rights-of-way agreements, leases, permits, etc., which constitute binding rights valid through the 1990s.

Table 1 lists decisions that will be continued through the 1990s without further environmental analysis. These decisions will be common to all alternatives and restated or summarized for incorporation into the resource management plan/environmental impact statement (RMP/EIS).

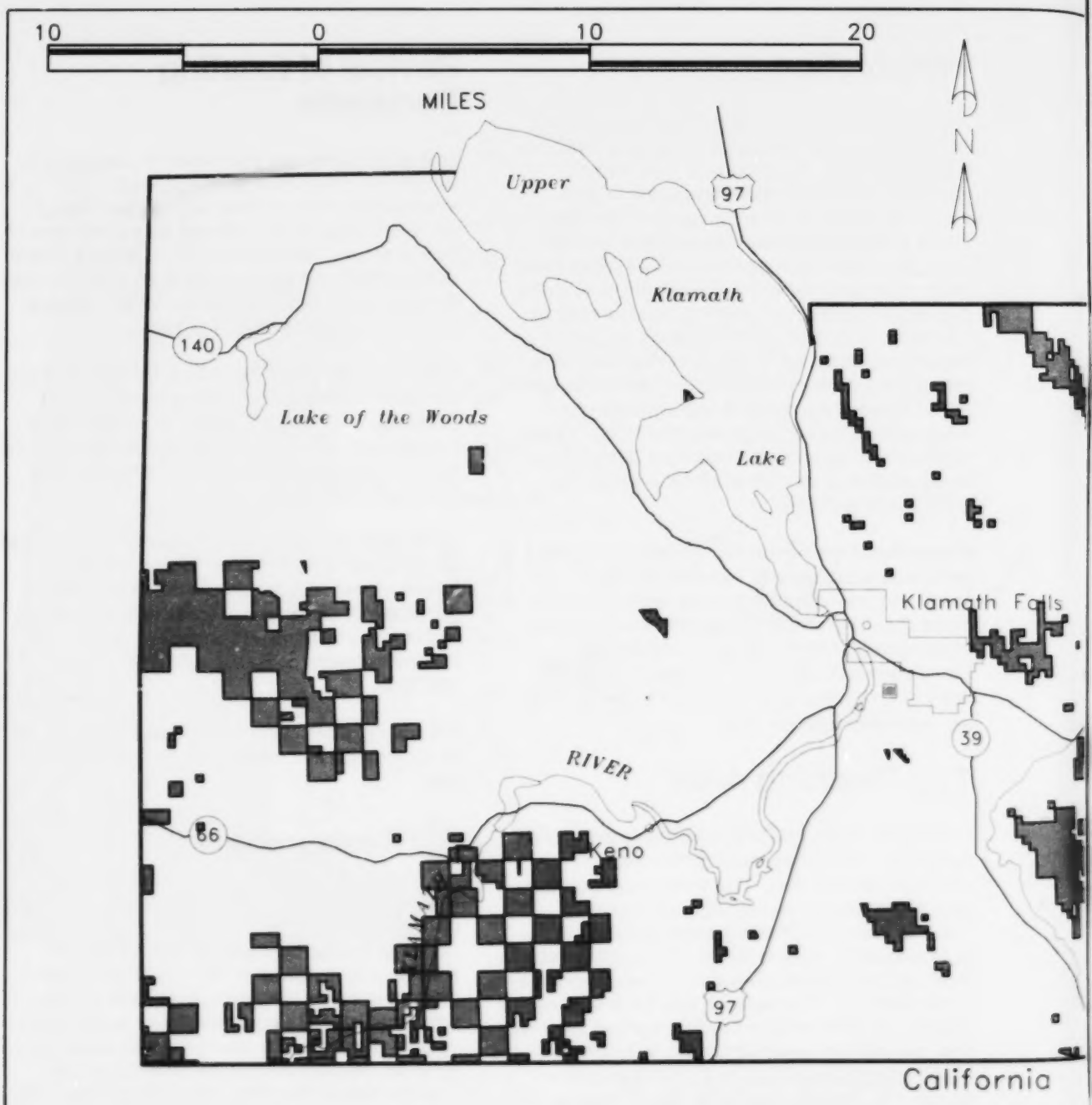
Table 2 lists decisions, though determined to be valid for continued implementation through the 1990s, have not been addressed in an EIS or fully supported in terms of analysis. These decisions will be common to all alternatives and will be analyzed in the environmental consequences section of the RMP/EIS.

Existing decisions not included in tables 1 and 2 will be superseded and replaced by new decisions in the RMP.

Air Resources

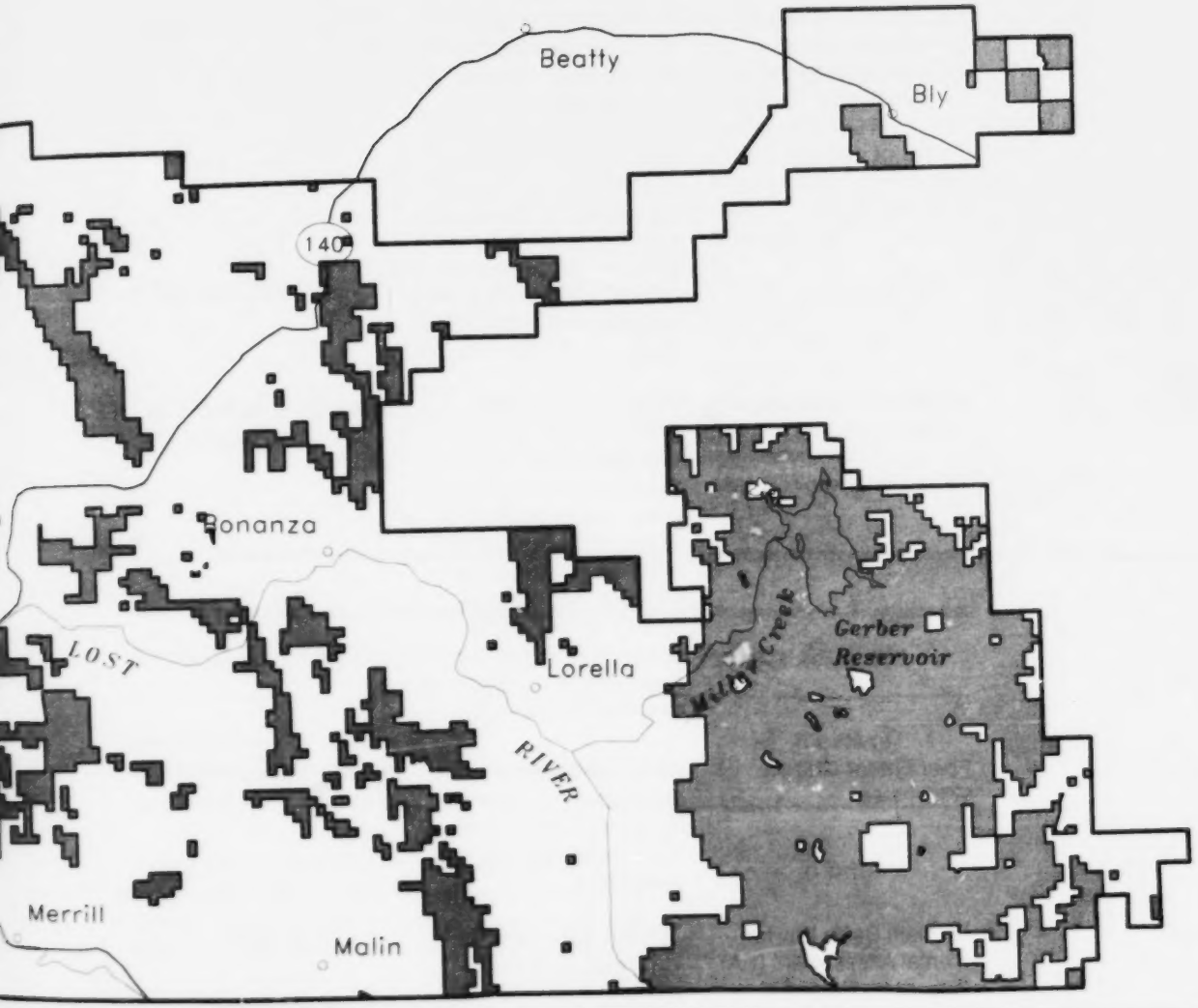
Introduction

Congress passed the Clean Air Act in 1967 and amendments to the Act in 1972, 1977, and 1990. This Act gives the state the responsibility for the administration and enforcement of air quality and visibility standards. To meet these objectives the state has developed and administered the State Implementation Plan (SIP). The SIP specifies a 22 percent reduction in emission levels statewide from the baseline period of 1976-1979 by the end of the year 2001, with a review in 1990 to determine whether "reasonable progress" has been made. Under the SIP, the State Visibility Protection Plan, adopted in 1986, substantially constrains prescribed burning from July 4 through Labor Day in order to reduce visibility impairment in Class I areas, specifically Crater Lake National Park and certain wilderness areas, during periods of high recreational use.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 2. LAND STATUS



LEGEND

- Resource Area Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- Planning Area Boundary
- Highway
- Stream
- Urban Area
- City
- BLM Managed Lands
- Klamath Sustained Yield Unit Boundary

Table 1. Existing Decisions Valid Without Further Analysis

Resource	Decision or Document Number(s)	Summary	Status of Decision
Timber	Final EIS for Western Oregon Control of Competing Vegetation	The record of decision (ROD) would make the programmatic decision on whether certain herbicides would be available for the BLM's use and commit to certain mitigating measures. Departure from the decision will be possible only to provide further mitigation to meet the goals of the land use plan.	ROD should be available soon.
Vegetation	RODs for the noxious weed EIS	These programmatic RODs apply to all noxious weed control activities on BLM lands in the state. They contain any decision the BLM might make on herbicide use. The BLM can be more restrictive but can not violate the mitigating measures and restrictions contained in the ROD.	In force until replaced by a new programmatic decision.
Wilderness	Final EIS for Oregon Wilderness	Preferred alternative is to designate 334 acres of Mountain Lakes Wilderness Study Area as wilderness.	In force until congressional action is taken.
Minerals	Klamath Basin Environmental Assessment (EA) Record for Proposed Geothermal Leasing No. OR-010-76-25	This EA addresses the leasing of geothermal resources on resource area lands east of Highway 97 and lands west of Highway 97 that are south and east of the Klamath River. It was prepared in 1975, and updated and supplemented by EA No. OR-010-81-70.	In force.
Minerals	Lakeview District Geothermal/Oil & Gas EA No. OR-010-81-70.	This EA addresses the leasing of geothermal and oil and gas resources in the Lakeview District BLM on lands east of Highway 97.	In force.

Table 1. Existing Decisions Valid Without Further Analysis (continued)

Resource	Decision or Document Number(s)	Summary	Status of Decision
Prescribed Fire	Mixed Conifer Prescribed Fire Programmatic EA No. OR-010-89-68	This EA addresses the prescribed underburning of 200 to 800 acres per year on approximately 43,000 acres of mixed conifer and true fir forests, typically found west of Highway 97 in the Klamath Falls Resource Area (KFRA).	In force.
Prescribed Fire	Klamath Prescribed Fire Programmatic EA No. OR-010-85-18	This EA addresses the prescribed underburning on an average of 1,500 acres per year for approximately 17,500 acres of ponderosa pine forests typically located east of Highway 97 in the KFRA.	In force

Table 2. Existing Decisions Valid Subject to Further Analysis

Decision or Document Number(s)	Summary	Status of Decision
Yainax Butte Communication Site Activity Plan Categorical Exclusion KCER-010-86-20	This activity plan addresses the conditions and requirements that must be met prior to the use of the communication site.	In force.
Stukel Mountain Communication Site Activity Plan EA No. OR-010-83-62	This activity plan addresses the conditions and requirements that must be met prior to the use of the communication site.	In force.

The Oregon Smoke Management Plan (OSMP), companion to the SIP, classifies certain areas as "designated areas" and "smoke sensitive" areas. The OSMP requires that prescribed burning, primarily slash burning, be done only when atmospheric conditions prevent smoke from deteriorating the air quality of these areas.

Existing Conditions

Map 3 shows "designated areas", Class I areas, and Class II areas with potential of becoming Class I areas (wilderness areas over 10,000 acres), which have the potential of being affected by the resource area's prescribed burning activities. Nonattainment areas (areas not in compliance with air quality standards), which may also be affected, are Klamath Falls and Medford/Ashland.

Smoke emissions from prescribed burning activities differ depending upon the method used (broadcast burn or pile and burn), the tree species burned, the amount of fuel, the proportion of the fuel consumed by the fire, and weather conditions. The Klamath Falls Resource Area is currently seeking alternatives to slash burning and will use those alternatives where they are effective. Eastern Oregon baseline data (which includes the entire planning area) for fuel (biomass) consumption was estimated for the period 1976 to 1979, but is only accurate to a factor of 2. Accomplishment records are not available for that period, making any comparison to current accomplishments impractical. An average of approximately 1,100 acres per year were burned from 1980 through 1988.

Current Management Direction

In addition to adhering to seasonal and other timing restrictions imposed by the OSMP, the BLM reduces emissions from burning through other means including: aggressive mop-up, slash piling, wood sales for power generation, and burning only where it is considered necessary to reduce fire hazard and/or make planting possible.

Management Opportunities

Increase wood utilization and use alternative site preparation methods where feasible to further reduce emissions.

Soil Resources

Introduction

The Timber Productivity Capability Classification (TPCC) is an intensive inventory that provides site-specific information for the O&C lands the BLM manages. This information identifies fragile sites where the timber growing potential is limited due to soil properties and landform characteristics. Detailed information and classification descriptions are contained in the Klamath Falls Resource Area TPCC Handbook and Oregon Handbook 5251.

Existing Conditions

Table 3 shows the BLM-administered forest land in the planning area that was identified in the recent TPCC inventory as fragile nonsuitable woodland. This land is not allocated for timber harvest due to fragile soil characteristics that make it unlikely that the land could be managed for a sustained yield of timber.

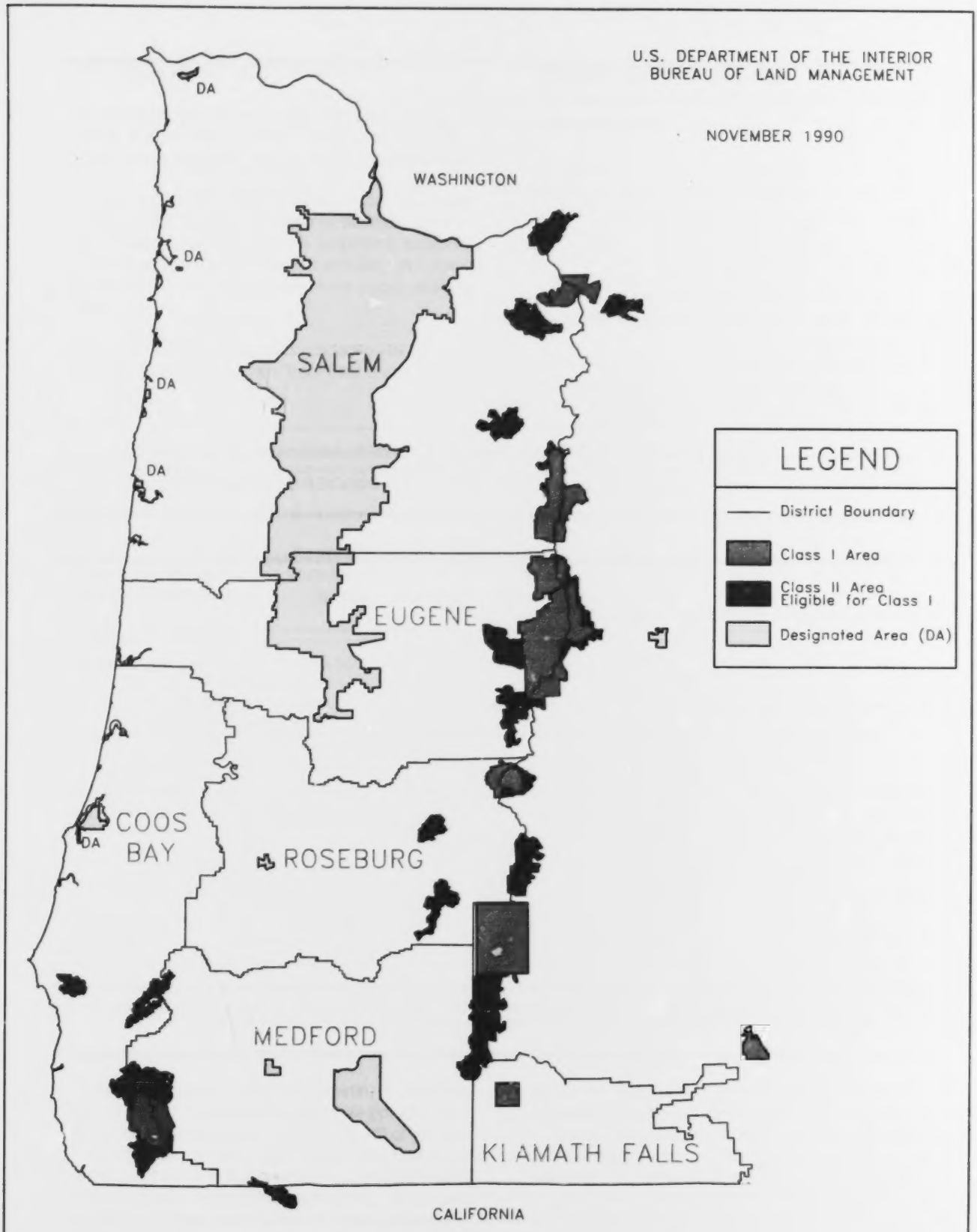
Table 4 shows the BLM-administered forest land in the planning area that was identified as fragile suitable, restricted. This land would be subject to unacceptable loss of soil productivity if managed for timber production without application of special restrictive or mitigative measures.

Soil productivity has been affected by management activities such as livestock grazing, road construction, timber harvest, slash burning and other site preparation activities. These activities disturb soil and can cause erosion and nutrient losses and reduce water-holding capacity and infiltration rates.

Current Management Direction

In the resource area adverse impacts to soil caused by livestock grazing have primarily been mitigated by implementing short-duration, high-intensity grazing systems or by excluding livestock. Currently, these practices have only been implemented on public lands surrounding the Gerber Reservoir, referred to as the Gerber Block (see map 2).

To mitigate adverse impacts to soil due to road construction activities the resource area has closed and rehabilitated unsurfaced roads and has seeded, mulched, and fertilized road cutbanks, fill slopes, and landings.



MAP 3: SENSITIVE AIR QUALITY AREAS

Table 3. Fragile Nonsuitable Woodland[1]

Classification of Woodland	Acres	Percent of Total BLM Land Base
Soil Moisture	70	<1%
Nutrient	0	
Slope Gradient	60	<1%
Mass Movement Potential	0	
Surface Erosion	0	
Potential Groundwater	320	<1%
Total	**450**	**<1%**

[1]These are lands where the timber growing potential will be reduced due to the soils having critical moisture-supplying capacities, severe nutrient problems, critical slope gradients, mass movement potential, severe surface erosion potential, or high groundwater levels. See the "TPCC Classification" BLM Manual Supplement, Oregon State Office, Handbook 5251-1 for a more detailed description.

Table 4. Fragile Suitable, Restricted Forest Land[1]

Classification of Woodland	Acres	Percent BLM Forest Land Base
Soil Moisture	0	
Nutrient	0	
Slope Gradient	0	
Mass Movement Potential	90	<1%
Surface Erosion Potential	0	
Groundwater	30	<1%
Total	**120**	**<1%**

[1]These are lands where the timber growing potential may be reduced due to the soils having critical moisture supplying capacities, severe nutrient problems, critical slope gradients, mass movement potential, severe surface erosion potential, or high groundwater levels. See the "TPCC Classification" BLM Manual Supplement, Oregon State Office, Handbook 5251-1 for more detailed description.

To mitigate soil productivity losses related to timber harvest and site preparation, the resource area has applied standards to limit the areal extent of soil compaction to 12 percent of some management treatment areas. Where appropriate, the resource area has employed one or more of the following practices to minimize impacts: designating skid trails; ripping skid trails after logging; limiting tractor yarding to the dry season; requiring one-end or full-log suspension when cable yarding; performing prescribed burns when the duff is moist to achieve cool burns; using alternatives to broadcast burning; and leaving large, downed woody debris on site.

Management Opportunities

Implement short-duration, high-intensity grazing systems or exclude livestock from sensitive areas where these practices are not currently being used.

Further reduce or mitigate losses caused by timber management activities through fertilization, the expansion of practices already employed, extending rotation ages on the poorer site classes, and draining areas other than wetlands that have poorly drained soils.

Limit the areal extent of soil compaction to 12 percent in all management treatment areas.

Water Resources

Introduction

For purposes of analysis in the EIS, the planning area has been divided into analytical watersheds, as shown in table 5 and on map 4. A calculated watershed conditions index (WCI) will be included in the RMP/EIS. The WCI is a relative value for watershed condition, developed by BLM hydrologists, based on physiographic conditions and management activities.

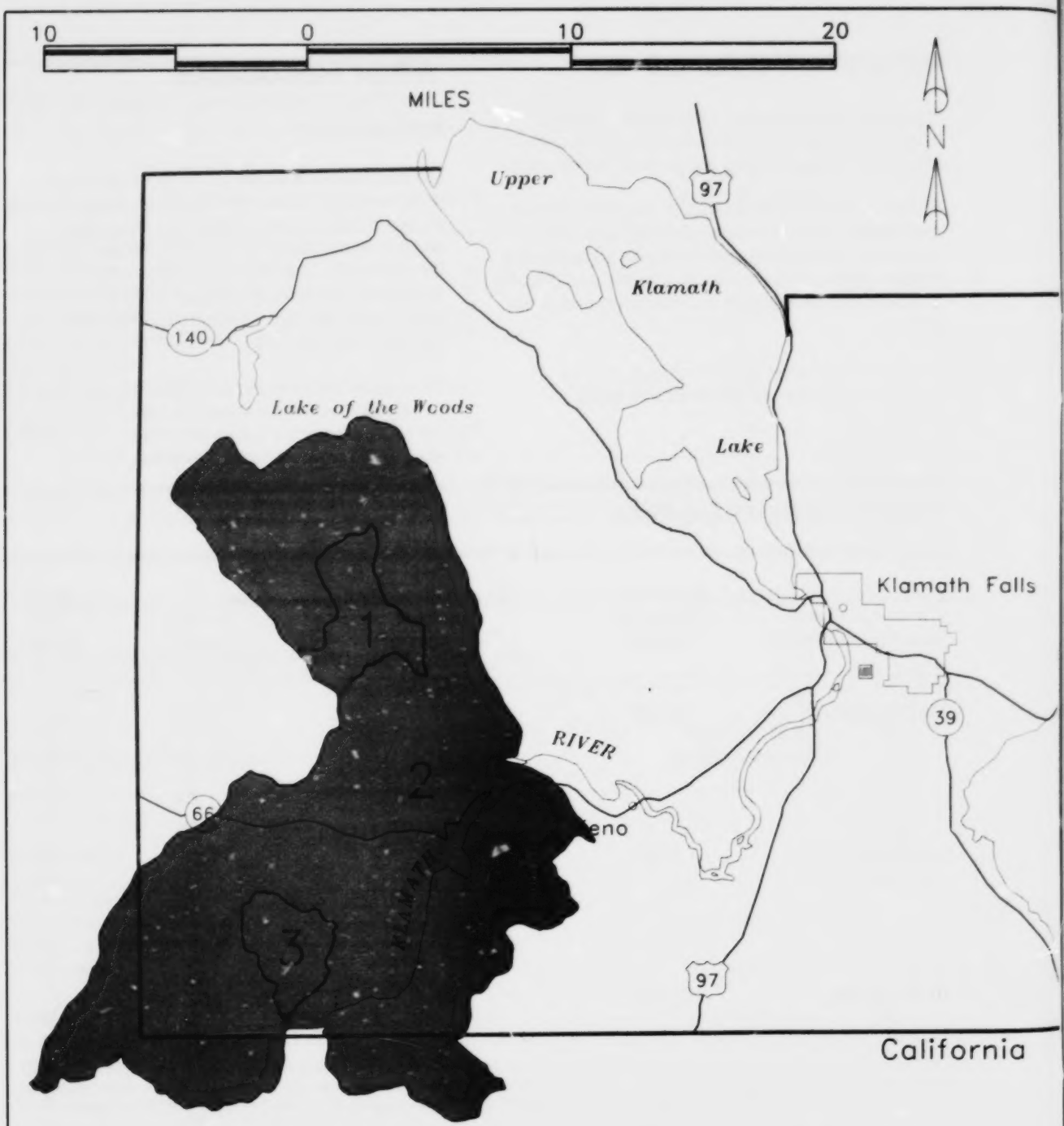
Throughout the planning area groundwater is used for irrigation and domestic and livestock use. There are no sole-source aquifers identified in the planning area by the Environmental Protection Agency.

Table 5. Analytical Watersheds

Watershed Name (Number on Map 4)	Analytical Watershed (acres)	Percent Watershed in BLM Management	Stream Order[1]	Miles of Stream
Klamath-Spencer (2)	165,860	17	1&2	464
			3	65
			4	46
			5	12
			6+	16
			L	3
			W	0
Middle Spencer (1)	9,450	42	1&2	28
			3	3
			4	1
			5	6
			6+	0
			L	0
			W	0
South Hayden (3)	6,720	47	1&2	21
			3	3
			4	4
			5	5
			6+	0
			L	0
			W	0
Barnes Valley (4)	21,360	45	1&2	33
			3	9
			4	2
			5	0
			6+	0
			L	0
			W	0

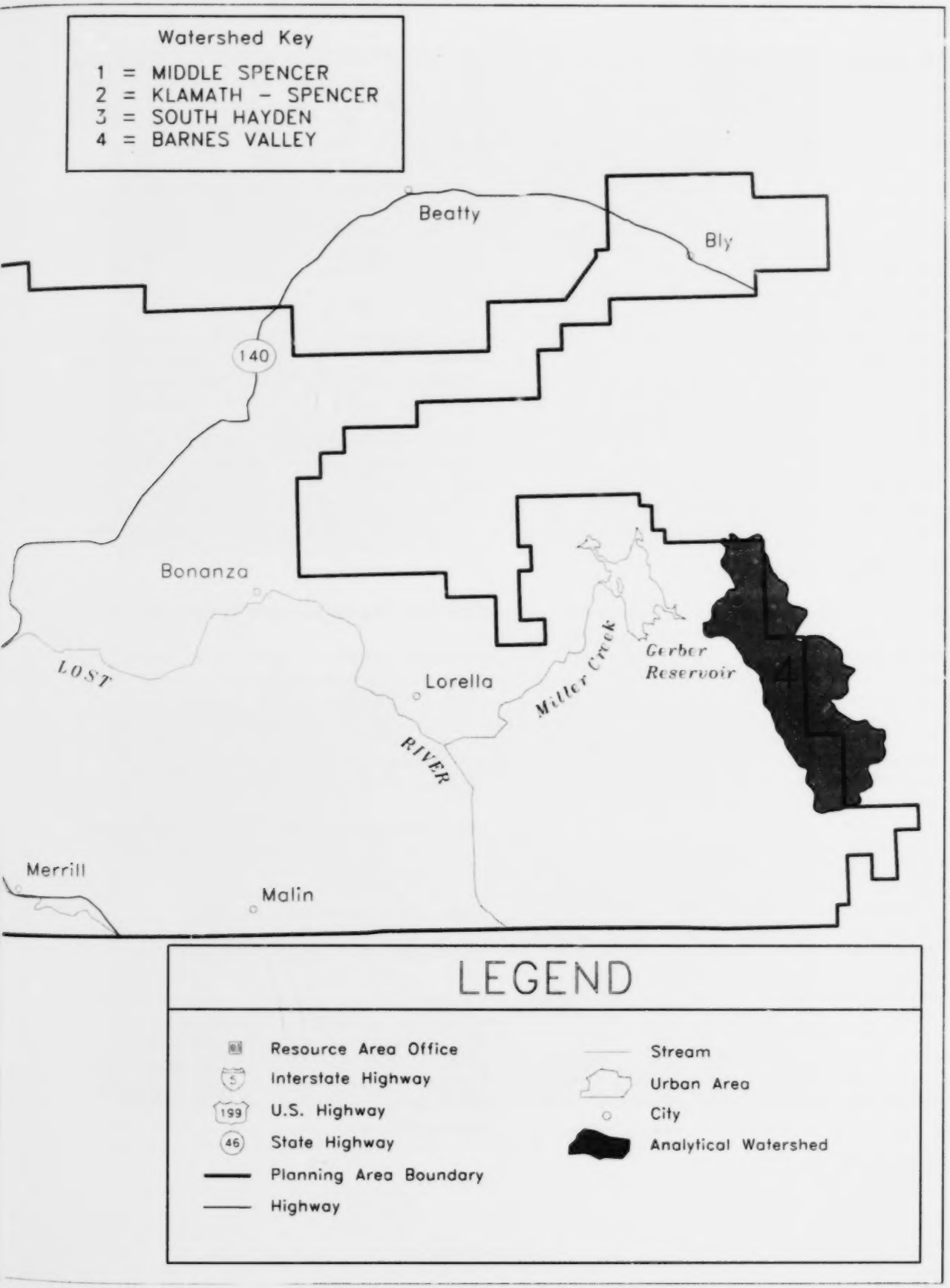
[1]Stream order—a hydrological system of stream classification. Each small unbranched tributary is a first order stream. Two first order streams join to make a second order stream. A third order stream has only first and second order tributaries, and so forth.

Abbreviations used in this table: L = Lakes, W = Wetlands, 6+ = 6th order and above.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 4: ANALYTICAL AND
COMMUNITY WATERSHEDS


Watershed Key
1 = MIDDLE SPENCER
2 = KLAMATH - SPENCER
3 = SOUTH HAYDEN
4 = BARNES VALLEY
Beatty
Bly
140
Bonanza
LOST
Lorella
Miller Creek
Gerber Reservoir
RIVER
Merrill
Malin
LEGEND
Resource Area Office
Interstate Highway
U.S. Highway
State Highway
Planning Area Boundary
Highway
Stream
Urban Area
City
Analytical Watershed

Groundwater quality is good with the exception of a few localized problems with mineralized water, arsenic, and pollution of shallow aquifers.

Numerous domestic and irrigation water rights have been filed on water in and downstream from BLM-administered lands. The Oregon Water Resources Department is currently undergoing a process of adjudication of water rights in the Klamath Basin to determine priority dates and amounts for usages prior to 1909. The City of Klamath Falls and the State of Oregon have applications on file with the Oregon Water Resources Department for water rights on the upper Klamath River. This section of river, between the John C. Boyle Powerhouse and the Oregon-California state line, is being considered by Congress for inclusion in the National Wild and Scenic River System and is a State Scenic Waterway.

There are no community or municipal system watersheds on BLM-administered lands in the planning area.

Existing Conditions

The portion of the Klamath Basin watershed that is in the planning area can be considered sensitive due to the cumulative impacts of timber harvesting and agriculture in the watershed. However, the stable soils and gentle slopes that characterize this area help moderate adverse cumulative impacts. Cumulative effects on the watershed from management activities on BLM-administered land, including mitigating measures, will be analyzed in the RMP/EIS.

The Oregon State Department of Environmental Quality (Oregon DEQ) compiled an extensive inventory of water quality problems in Oregon, and published the results in the 1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution. The streams in the planning area identified in this assessment as having moderate to severe water pollution problems are the Klamath River and Barnes Valley Creek. This inventory also identified Spencer Creek, Long Prairie Creek, and Miller Creek as having "observed" water quality problems. No data was available for these streams at the time of the Oregon DEQ assessment.

The Klamath River is considered by the Oregon DEQ to be "water quality limited" due to dissolved oxygen and pH problems. Therefore, the Oregon DEQ has proposed total maximum daily loads (TDMLs) for total oxygen demand and total ammonia, which influence pH and dissolved oxygen levels and contribute to the cumulative effect of point and nonpoint pollution in the river. No other streams in the resource area have been designated by the Oregon DEQ as water quality limited; therefore, TDMLs have not been established for any other stream.

For more information on water quality on the upper Klamath River, see the KFRA BLM's April 1989 Final Eligibility and Suitability Report for the Upper Klamath Wild and Scenic River Study.

Livestock grazing and timber management activities can affect water quality and quantity and the beneficial uses assigned to each. Vegetation removal, soil compaction and disturbance, and inputs of sediments and other pollutants are the primary adverse impacts that can result from these management activities.

Current Management Direction

To mitigate impacts on water quality and quantity, the resource area has imposed the following requirements on timber management activities: no or restricted timber harvest within the riparian zone of streams (restrictions vary with stream class); special logging practices, where appropriate; and road construction to state-of-the-art standards.

The resource area has used additional management techniques, such as either short-duration, high-intensity grazing systems or the exclusion of livestock, to further mitigate impacts to certain water-quality sensitive areas within the Gerber Block.

Management Opportunities

Designate several undisturbed watersheds throughout the state associated with lands protected for other purposes for study as control watersheds. Although there are no undisturbed watersheds in the planning area, the control watersheds can be used for comparison with existing conditions in the resource area.

Duncan Springs
1977
(Before livestock exclusion)

Duncan Springs
1984
(After exclusion of livestock)

Duncan Springs Creek (renamed Antelope Creek) contained only Speckled dace when fenced in 1977. It now contains a spawning populaiton of Lahontan cutthroat trout.

Make watershed agreements with private landowners and other land management agencies for certain watersheds to minimize cumulative impacts from timber harvest and grazing practices.

Manipulate vegetation to enhance or create springs and wetland areas.

Develop more protective measures to minimize impacts of management activities (e.g. timber harvest, road building, slash disposal, site preparation, and livestock grazing).

Improve riparian areas on BLM lands in the resource area by manipulating livestock grazing or excluding livestock.

Vegetation

Introduction

For the purpose of analysis, the vegetation of the planning area is described in terms of plant communities and their associated secondary successional seral communities. Seral stages are the series of relatively transitory plant communities that develop during ecological succession.

Existing Conditions

Table 6 shows the acres of major plant communities and their seral stages on BLM-administered lands in the planning area.

There are 66 known wetland locations (permanently wet or intermittently flooded areas) on BLM-administered lands in the planning area, totaling almost 3,100 acres. Other unique ecosystems identified on BLM-administered lands are discussed as special habitat features (see Animals section). Those sites reviewed for their potential as research natural areas (RNAs) and/or areas of critical environmental concern (ACECs), are discussed in the Special Areas section in this summary.

The following noxious weeds occur on BLM-administered lands in the planning area: Canada thistle, dalmation toad flax, leafy spurge, Mediterranean sage, musk thistle, poison hemlock, puncture vine, rush skeletonweed, Russian knapweed, St. Johnswort, Scotch thistle, Spanish thistle, tansy ragwort, wavyleaf thistle, western water hemlock, and yellow star thistle.

Table 7 shows the threatened and endangered plant species, plus federal proposed and candidate species, state listed species and bureau sensitive species (all referred to as priority plant species) occurring on BLM-administered lands in the planning area. Since 1980, approximately 50,000 acres of the resource area have been surveyed for priority plants.

Current Management Direction

All BLM activities must comply with the Endangered Species Act. Therefore, objectives are to recover federally listed species and to protect other species to the extent needed to prevent their listing. An active inventory program of priority plants is linked to proposed timber sale locations. These sale locations are surveyed to avoid impacting priority species within the sale boundaries. When appropriate, the BLM consults and coordinates with the U.S. Fish and Wildlife Service.

Noxious weed control activities are focused on species identified in the planning area. Control methods are selected as part of an integrated pest management program that provides for the use of all available techniques, including herbicides where appropriate. All weed control activities are coordinated with the Oregon Department of Agriculture and Klamath County Weed and Rodent Control.

Phlox flowers on the east side (east of Highway 97).

Table 6. Acres of Major Plant Groupings and Seral Stages

West Side

Plant Group	Seral Stage (acres) Early (0-10 yrs)	Mid (10-40 yrs)	Late (40-100 yrs)	Mature (100-200 yrs)	Old Growth (200 + yrs)	Total
P/Ce/Gr	1,880	3,810	11,140	5,410	1,890	24,130
SF/Sh/Hb	1,470	1,410	2,660	3,460	6,560	15,560
DP/Ce/Hb	180	620	1,490	300	730	3,320
WP/EB/Gr	1,380	20	490	2,290	200	4,380

East Side

Plant Group	Seral Stage (acres) Early	Mid	Late	PNC[1]	Total
Sagebrush	1,610	38,310	34,180	10	74,110
Juniper-Bunchgrass	1,250	37,570	15,000	0	53,820
Conifer	850	9,600	10,300	0	20,750
Mountain Brush	1,300	8,300	2,440	0	12,040
Grass	230	2,370	1,890	0	4,490
Meadow	0	860	350	0	1,210

[1]Potential Natural Community-the plant community that would establish if all successional sequences were completed without interference by humans under the present environmental conditions.

Abbreviations used in this table:

P/Ce/Gr = Ponderosa Pine/Ceanothus/Grass Community
SF/Sh/Hb = Shasta Fir/Shrub/Herbaceous Community
DP/Ce/Hb = Douglas Fir-Ponderosa Pine/Ceanothus/Herbaceous Community
WP/EB/Gr = White Oak-Ponderosa Pine/Manzanita-Wedgeleaf/Grass Community

Table 7. Priority Plant Species

Botanical Plant Name	Common Plant Name	Status
	West Side	
Astragalus applegatei	Applegate's milk-vetch	FC, SE
Calochortus greenei	Greene's mariposa lily	FC
Collomia mazama	Mt. Mazama collomia	FC
Limnanthes floccosa ssp. *bellingeriana*	Bellinger's Meadow-foam	FC
Mimulus pygmaeus	Pygmy monkey flower	FC
Perideridia erythrorhiza	Red-root yampah	FC
Asarum wagneri	Green-flowered wild ginger	BS
Thelypodium brachycarpum	Short-podded thelypody	BS
	East Side	
Astragalus applegatei	Applegate's milkvetch	FC, SE
Astragalus peckii	Peck's milkvetch	FC
Castilleja chlorotica	Green-tinged paintbrush	FC
Penstemon glaucinus	Blue-leaved penstemon	FC
Rorippa columbiae	Columbia cress	FC
Allium campanulatum	Sierra onion	BS
Calochortus longebarbatus var. *longebarbatus*	Long-bearded mariposa lily	BS
Penstemon janishiae	Janish's penstemon	BS
Silene nuda ssp. *insectivora*	Fringed campion	BS
Thelypodium brachycarpum	Short-podded thelypody	BS

Abbreviations used in this table:

FC = **Federal Candidate** (Federally listed by U.S. Fish and Wildlife Service and the National Marine Fisheries Service)

SE = **State Endangered** (State listed by the Oregon Department of Agriculture)

BS = **Bureau Sensitive** (Bureau of Land Management Listed)

Management Opportunities

Establish special interest areas, which include habitats with concentrations of priority plant species, that need special management consideration but do not qualify as ACECs.

Improve riparian and wetland areas on BLM-administered lands in the resource area by manipulating livestock grazing or excluding livestock.

Reduce the livestock forage utilization on allotments, where it is justified, to allow for the regrowth of vegetation.

Reduce disturbance by livestock grazing and timber harvesting to decrease the potential for the establishment of noxious weeds.

Timber Resources

Introduction

The planning area contains 58,300 acres of commercial forest land suitable for long-term timber production. These lands support predominantly mixed conifer species consisting of ponderosa pine, white fir, Shasta red fir, sugar pine, western white pine, and Douglas fir.

BLM districts in western Oregon are divided into sustained yield units (SYUs). An SYU is a specified area of forest land for which an allowable sale quantity (ASQ) has been calculated. The ASQ is the volume of timber that may be harvested from an area over a management plan period (approximately 10 years). The ASQ is usually expressed as a yearly average.

As a result of the reorganization of the Medford and Lakeview BLM districts on October 1, 1988 the Klamath Falls Resource Area (KFRA) of the Lakeview District acquired 54 percent of the Klamath SYU, as well as a few scattered parcels outside the SYU from the Medford District. Because most of the O&C inventory data is collected at the SYU level, the Medford District BLM and the KFRA will have data common to each of their Timber sections for the Analysis of the Management Situation (AMS) and AMS Summary documents.

Much of the inventory data for the Klamath SYU over the last decade cannot be split between the Medford District and the KFRA; therefore, some tables, such as table 8, will be approximations of the Klamath Falls portion.

Public domain land east of Highway 97 and a few isolated parcels of public domain land near the town of Keno, Oregon are also managed by the KFRA. Because the management of the Klamath SYU land has been documented more extensively than the land outside of the SYU, there may not be comparable inventory data between the public domain land and the SYU land.

In this document, the O&C land in the Klamath SYU and the few isolated parcels of public domain land near Keno will be referred to as the west side, and the public domain land east of Highway 97 will be referred to as the east side.

Existing Conditions

There are 273 million cubic feet (1,600 million board feet, Scribner short log scale) of standing volume on BLM-administered land in the Klamath SYU that could be managed for a continuous supply of wood, according to an inventory completed in 1977. There are approximately 148 million cubic feet (860 million board feet Scribner short log scale) in the KFRA portion of the Klamath SYU. The KFRA volume approximations, as shown in table 8, are 54 percent of the total SYU volumes of each age class. Although these are not accurate volumes because timber neither grows nor is harvested uniformly across the SYU, they were included to give the reader an idea of the 1977 volumes. Both the actual 1977 inventory data and the 1988 inventory data will be included in a supplementary mailer in early 1991. This mailer will only be sent to those who request it.

There are 21 million cubic feet (110 million board feet, Scribner short log scale) of standing volume on BLM-administered east side forest lands that could be managed for a continuous supply of wood, according to an inventory completed in 1984, and subsequently updated in 1986 to include a pending land exchange. This compares to 19 million cubic feet (88 million board feet Scribner) in the inventory completed in 1977. The age class distribution for both east side inventories is shown in table 8.

Reforestation is the establishment of a new timber stand in an area that has either been cleared of brush or logged. Reforestation status is shown in table 9.

Table 10 shows timber management and forest development accomplishments projected for 8 years in the current plans, and actual accomplishments through September 30, 1988. All the accomplishments in the Klamath SYU were completed while the entire SYU was still under the Medford District's administration; therefore, that information for the west side is not included in this document, but can be found in the Medford District's AMS Summary.

The annual volume of wood harvested in Klamath County averaged 478 million board feet (Scribner short log scale) from 1984 through 1989. Of that volume, 287 million came from national forest lands, 5 million came from lands administered by Prineville BLM District, 18 million came from KFRA's west side lands, 1 million came from KFRA's east side lands, and the remainder came from private and state lands.

Table 8. Comparison of Resource Area Timber Inventory Data 1977 and 1988

	Acres		Cubic Foot Volume (thousands)		Board Foot Volume (millions)	
Age Class	1977	1988	1977[1]	1988[2]	1977[1]	1988[2]
			West Side			
0	800	1,600	0		0	
1 - 5	110	1,600	0		0	
10	400	2,300	0		0	
20	1,200	2,000	0		0	
30	190	1,600	390		1,909	
40	60	400	127		632	
50	110	1,000	279		1,403	
60	1,220	2,600	3,353		17,035	
70	130	3,800	374		1,919	
80	2,410	4,200	7,665		39,677	
90	1,140	2,400	3,855		20,125	
100	750	1,400	2,695		14,180	
110	1,520	800	5,733		30,388	
120	820	1,500	3,220		17,189	
130	1,220	800	5,022		27,005	
140	60	1,000	240		1,298	
150	3,100	700	13,725		74,858	
160	170	1,000	782		4,296	
170	680	300	3,174		17,553	
180	960	20	4,626		25,766	
190	390	2,300	1,940		10,885	
200+	16,250	9,200	156,259		550,381	
			East Side			
0	1,740	1,950		750		1,478
1 - 5		90		112		577
10		30		0		0
20		1,150		1,187		6,476
30		150		364		2,021
40	770	500	577	778	251	4,186
50		850		1,127		5,220
60	720	1,230	306	1,877	1,345	10,405
70	5,950	1,070	5,301	1,379	23,484	6,114
80	4,900	1,700	4,119	2,213	18,454	11,201
90	3,050	2,400	3,509	2,833	15,932	14,422
100	1,310	1,550	2,152	1,908	9,922	11,188
110	800	800	964	1,259	4,549	6,564
120		550		955		4,956
130	720	250	1,489	200	7,387	2,447
140		200		534		3,128
150		0				
160		0				
170+	740	1,800	1,266	3,340	5,270	16,630

[1]This data for the west side was approximated by multiplying the Klamath SYU volumes by 54 percent to get Klamath Falls' portion.
[2]This data was not available in time to complete these columns for the west side, but will be included in a supplemental mailer, along with the actual 1977 figures which will be mailed to those who request it in early 1991.

Table 9. Reforestation Status as of October 1, 1988

West Side Acres	
Understocked:	
Unestablished	1,280
Established	140
Stocked:	
Unestablished minimum	200
Unestablished target	3,050
Established minimum	0
Established target	800
East Side Acres	
Understocked:	
Unestablished	50
Established	0
Stocked:	
Unestablished minimum	10
Unestablished target	525
Established minimum	20
Established target	200

Terms used in this table:

Unestablished Stand: A reforestation unit with trees still in danger of mortality, that may require measurers to maintain the desired stocking levels.

Established Stand: A reforestation unit with trees that are judged to be in no danger of mortality and no longer require measures to ensure survival.

Understocked Established: An established stand that does not meet minimum stocking standards.

Minimum Stocking: A lower level of stocking that does not achieve full site occupancy in young stands, but which is capable of full final harvest yields and partial commercial thinning yields.

Target Stocking: A stocking standard that represents the number of trees needed for full site occupancy and optimal timber yields. This standard is designed to achieve full commercial thinning yields as well as a full final harvest.

Stocked Unestablished Minimum: An unestablished stand that meets minimum stocking levels.

Stocked Unestablished Target: An unestablished stand that meets target stocking levels.

Stocked Established Minimum: An established stand that meets the minimum stocking standards of well-spaced trees per acre.

Stocked Established Target: An established stand that meets the target stocking standards of well-spaced trees per acre.

Table 10. Timber Management and Forest Development

Practice	Average Annual Acres Planned 1981 — 1988	Average Annual Acres Accomplished 1981 — 1988
	West Side	
All the accomplishments on the west side from 1981 to 1988 were completed when those lands were still under the Medford District's administration; therefore that information is not included here, but can be found in Medford's AMS Summary.		
	East Side	
Allowable Harvest	0.3	0.4
Million Cubic Feet	1.4	1.6
Million Board Feet		
Harvest		
Clearcutting		16
Partial Cutting	800	411
Site Preparation		
Broadcast Burning		154
Herbicide		2
Brush and Hardwood Conversion		
Planting		
Normal Stock	45	38
Genetic Stock		
Animal Damage Control		40
Plantation Release		1
Precommercial Thinning	50	56
Fertilization		

*Fiscal Year 1980-1990.

Current Management Direction

The following are the current timber harvest practices used in the KFRA.

- Two-stage shelterwood cutting for underplanting purposes. The first (regeneration) cut removes the majority of trees, leaving well-spaced, full-crowned trees to provide protection to seedlings against heat, drought, and frost damage. When adequate stocking is established, the remaining overstory trees are removed.
- Salvage logging of dead and dying trees.
- Clearcutting on the west side for stands with a minimum age of 60 years. Clearcutting on the east side in stands heavily affected by dwarf mistletoe.

- Removing trees through single tree selection. This involves removal of a smaller portion of the stand than clearcutting or shelterwoods.

- Commercial thinning of trees in young (40 years old and older) stands to salvage trees that would otherwise die and to promote the growth of the remaining trees.

The 1988 Timber Production Capability Classification (TPCC) inventory (refer to Soils) classified all BLM lands as non-forest, nonsuitable woodland, suitable woodland, or suitable commercial forest land. These are defined as follows:

- Non-forest land is not capable of maintaining at least 10 percent stocking of forest trees and those forest sites that have been converted to non-forest uses.

- Nonsuitable woodland is fragile forest land that is not biologically or environmentally capable of supporting a sustained yield of forest products.

- Suitable woodland is all non-commercial and nonsuitable commercial forest lands that are biologically capable of supporting a sustained yield of forest products.

- Suitable commercial forest land is capable of sustaining long-term timber production.

The suitable woodland and suitable commercial forest land categories provide opportunities for the sustained harvest of forest products. However, lands included in these categories which have been set aside as congressionally-designated areas or developed recreation sites are not used for the sustained harvest of forest products.

Results of the 1988 TPCC inventory are shown in table 11.

Table 12 shows, for comparison, the 1977 TPCC for the west side. The TPCC conducted on the east side in 1984, which was updated in 1988, is the only TPCC completed to date on those lands.

Fuelwood sales on BLM lands from 1985 to 1988 has averaged 300 cords per year on the west side and 250 cords per year on the east side. Certain areas could be designated and managed to increase the availability of fuelwood for local use.

Management Opportunities

Based on the 1988 TPCC, the highest potential sustained yearly timber sale volume will be calculated for the RMP. That highest estimate, for the decade covered by the plan, will be determined after publication of this AMS Summary and, along with

An example of tractor yarding.

Table 11. Timber Productivity Capability Classification (TPCC) Summary as of October 1, 1988

	O&C[1] (acres)	Public Domain (acres)	Total (acres)
	West Side		
Non-forest			
Rockland, brush, grass	890	400	1,290
Water	40	40	80
Highway	1,780	130	1,910
Utility	180	120	300
Agriculture	0	0	0
Nonsuitable woodland			
Fragile nonsuitable	350	20	370
Suitable woodland			
Low site	2,580	1,410	3,990
Non-commercial species	570	500	1,070
Nonsuitable commercial forest land (reforestation problem)	80	70	150
Suitable commercial forest land			
Non-problem	0	0	0
Fragile suitable	0	0	0
Cat. I - reforestation problem	39,880	2,080	41,960
Cat. II - reforestation problem	0	0	0
Reforestation problem and fragile (combination)	110	0	0
Total	**46,460**	**4,770**	**51,230**
	East Side		
Non-forest			
Rockland, brush, grass		81,020	81,020
Water		2,490	2,490
Highway		4,920	4,920
Utility		380	380
Agriculture		30	30
Nonsuitable woodland			
Fragile nonsuitable		0	0
Suitable woodland			
Low site		20	20
Non-commercial species		54,990	54,990
Nonsuitable commercial forest land (reforestation problem)		3,960	3,960
Suitable commercial forest land			
Non-problem		11,740	11,740
Fragile suitable		0	0
Cat. I - reforestation problem		4,470	4,470
Cat. II - reforestation problem		0	0
Reforestation problem and fragile (combination)		0	0
Total		**164,020[2]**	**164,020[2]**

Table 11. Timber Productivity Capability Classification (TPCC) Summary as of October 1, 1988 (continued)

[1]There are no O&C lands on the east side; therefore, this column is blank.

[2]Includes approximately 3,000 acres of Bureau of Reclamation withdrawals managed by BLM under an interagency cooperative agreement.

Terms used in this table:

Woodland: Forest land not included in the suitable commercial forest land base, which includes all noncommercial and nonsuitable forest land.

Nonsuitable woodland: All fragile nonsuitable forest land.

Fragile nonsuitable: A TPCC classification indicating forest land that has inherent fragile conditions.

Suitable woodland: Forest land occupied by minor conifer and hardwood species not considered in the commercial forest land ASQ determination and referred to as noncommercial species (these species may be considered commercial for fuelwood, etc. under woodland management). Also included are low site and nonsuitable commercial forest land. These lands must be biologically and environmentally capable of supporting a sustained yield of forest products.

Noncommercial (low site): Sites that produce less than 20 cubic feet per acre per year of commercial tree species.

Noncommercial: Sites producing forest tree species that are typically used as non-saw timber products.

Nonsuitable commercial: Sites that would take longer than the required number of years to meet or exceed minimum stocking levels of commercial species.

Commercial: Forest land that is now producing or is capable of producing at least 20 cubic feet of wood per acre per year of commercial tree species.

Suitable Commercial: Commercial forest land that is determined to be capable of sustained long-term timber production.

Non-problem: Commercial forest land that can be stocked to meet or exceed target stocking levels of commercial species within five years of harvest using standard practices, and which is classified nonfragile.

Fragile Suitable: Sites where forest yield productivity may be reduced due to soil erosion, mass wasting, reduction of nutrient levels, reduction of moisture supplying capacity, and/or rise in groundwater table.

Category I Commercial Forest Land: Sites that can be reforested within five years of harvesting using artificial regeneration and operational reforestation practices, or natural regeneration.

Category II Commercial Forest Land: Sites that can be reforested within 6 to 15 years of harvest using natural and/or artificial regeneration in all forest types.

Reforestation Problem and Fragile (Combination): Commercial forest land that is classified as fragile suitable where operational reforestation practices, in addition to standard practices, are necessary to meet or exceed minimum stocking levels of commercial species within five years of harvest for Category I lands. The regeneration period for Category II lands is 6 to 15 years.

Table 12. Timber Productivity Capability Classification (TPCC) Summary of 1977

West Side

Commercial Forest Land	**Acres**
High Intensity Management	
No problem	15,060
Fragile restricted	150
Reforestation problem	21,950
Subtotal	**37,160**
Low Intensity Management	
Fragile restricted	20
Reforestation problem	2,540
Subtotal	**2,560**
Limited Management	
Fragile withdrawn	640
Reforestation	1,320
Subtotal	**1,960**
Non-commercial and Non-forest Land	
Non-forest	1,330
Low Site	2,370
Non-commercial species	5,260
Subtotal	**8,960**
Statutory Withdrawals	**0**
Total	**50,640**

East Side

No TPCC inventory was done on the east side in 1977.

economic efficiency analyses for several silvicultural prescriptions, will be mailed out as a supplement to this summary to those who request it.

The following management opportunities would help achieve the highest potential sustained yield:

- Emphasize the timber management systems and regeneration systems that would promote effective regeneration.
- Consider the efficiency of field operations and assurance of prompt reforestation in selecting the size of timber harvest units.
- Use all tools, including herbicides, for site preparation, seedling protection, and plantation maintenance and release. Emphasize those tools that have proven to be most effective in assuring seedling survival and growth.
- Reforest harvested lands immediately after harvest with native commercial species.
- Reforest areas where root disease is centered with indigenous resistant tree species.
- Control the spacing of young trees by planting and thinning to densities that maximize wood production. Control competing vegetation to allow site resources to be concentrated into the growth of crop trees.
- Commercially thin present and future stands where technically feasible and where research indicates increased gains in timber production are likely.
- Apply fertilizer on all present and future stands where research indicates increased wood yields will result.
- Convert to conifers all commercial coniferous forest sites presently occupied mostly by grass, hardwoods, and brush.

Demand for BLM timber is based primarily on a combination of three factors: the characteristics of mills in the market area and their current short-term stocks of logs and purchased, unharvested timber; western U.S. housing (including remodeling) activity; and the level of non-federal log exports. Timber supply studies address the possibility of a timber "supply gap" in the resource area's primary timber market. A supply gap period is a decade when

expected harvest levels from all lands in the market area fall below recent historic levels. Recent studies anticipate a gap in the supply of timber between 2001 and 2010.

Animals

Introduction

Each of the five seral stages (see Vegetation) provides important habitat for wildlife species. The most important wildlife habitats on BLM-administered lands in the planning area are streams, riparian zones, and a variety of special habitat features, as shown in table 13.

Table 13. Special Habitat Features

Habitat	Miles	Acres
cliff	25	
talus		590
wet meadow		1,630
seasonal wetland		2,260

Existing Conditions

The KFRA has five known federally listed threatened or endangered species, four known state listed threatened or endangered species, and four known federal candidate species inhabiting its land (see table 14). Some of those species are mentioned in this summary, others are described in the Animals section of the AMS available in the resource area office.

The northern spotted owl is a federally listed threatened species and a state listed threatened species in Oregon. Recent inventories and monitoring, covering 50 percent of the resource area, have identified the following known spotted owl occupancy of BLM-

Table 14. Federal Threatened, Endangered, or Candidate, and State Listed Species

Common Name	Scientific Name	Status
Fish		
Lost River sucker	*Catostomus luxatus*	FE
Klamath largescale sucker	*Catostomus snyderi*	FC
Shortnose sucker	*Chasmistes brevirostris*	FE
Reptiles		
Western pond turtle	*Clemmys marmorata*	FC
Birds		
Bald eagle	*Haliaetus leucocephalus*	FT, ST
Peregrine falcon	*Falcon peregrinus*	FE
Northern spotted owl	*Strix occidentalis*	FT, ST
Western sage grouse	*Centrocercus urophasianus phaios*	FC
Mammals		
Townsend's big-eared bat	*Plecotus townsendii*	FC

Abbreviations used in this table:

FE = Federal Endangered, FC = Federal Candidate, FT = Federal Threatened, ST = State Threatened.

administered lands: eleven pairs occupying eleven sites, three single owls occupying three sites, and one unoccupied habitat site. Most of these owls roost in mature stands and forage in stands of various ages.

The bald eagle is federally listed as threatened in Oregon, and is listed as threatened by the state of Oregon. There are seven known nesting pairs of bald eagles on BLM-administered lands in the planning area. No feeding areas or communal night roosts have been identified following inventories of wintering bald eagles. However, two potential roost areas, Dodds Hollow and Bryant Mountain, have been identified on BLM-administered land in the planning area (see map 5).

The peregrine falcon is federally listed as endangered. One known historic eyrie (nest site) is in the Klamath River Canyon. Winter sightings, thought to be of migrant birds, have increased in recent years. The last peregrine falcon to nest in the planning area was in the 1970s in the Klamath River Canyon.

Sage grouse are a federal candidate species. No inventories of sage grouse have been conducted on BLM-administered lands in the planning area. The Oregon Department of Fish and Wildlife (ODFW) estimated the population in Klamath County at 320 birds in 1970. Since that time sightings have steadily declined, which indicates either a drop in the population or a change in distribution.

The shortnose and Lost River suckers are federally listed as endangered. These two sucker species are limited in distribution to lakes and streams of the upper Klamath River Basin. The BLM administers lands within and adjoining 20 miles of the upper Klamath River Canyon between the J.C. Boyle Dam in Oregon and Copco Reservoir in California. The shortnose sucker migrates upstream from Copco Reservoir to spawn in the Klamath River. The Lost River sucker has been found in waters above and below the BLM-administered land adjacent to the Klamath River. There is no population estimate for either species.

Townsend's big-eared bat is a federal candidate species. A small maternity (birthing) colony was recently discovered on BLM-administered land in the Klamath River Canyon. Research on this population is currently being conducted. Lands near this known maternity colony have been inventoried, but no other lands in the planning area have been inventoried and no other records or sightings of Townsend's big-eared bat are known.

In addition to managing for threatened and endangered species in the planning area, the BLM manages for the following species, among others: Roosevelt and Rocky Mountain elk, black-tailed deer, dominant woodpeckers, rainbow and redband trout, wild turkey, and osprey.

- The Roosevelt elk inhabits BLM-administered lands on the west side of the planning area. The population of elk on the west side is estimated by the ODFW to be 50 animals. The quality and quantity of habitat in the area appears to have increased in recent years. The Rocky Mountain subspecies of elk inhabits BLM-administered lands on the east side. This population is estimated by the ODFW to be 250 animals. Because little is known about movement and use patterns of this population, their habitat quality or quantity has not been monitored in the past. The ODFW has recently radio collared several elk on or near BLM east side lands and data from this telemetry study is being collected.

- The ODFW estimates the spring population of the migratory Pokegama black-tailed deer herd, which inhabits the west side of the planning area, at 3,200 animals. A migratory herd of Rocky Mountain mule deer inhabits the east side of the planning area. In the spring of 1990 the ODFW estimated this herd at 8,800 deer, approximately half of these occupy BLM-administered lands (see map 5).

- Dominant woodpeckers (such as downy, hairy, and pileated woodpeckers; northern flicker; and the red-breasted sapsucker) are cavity dwellers. Based on forest stand condition information, the BLM estimates there are 34,700 acres of habitat on commercial forest land (stands 80 years old or older that contain appropriate snags for foraging, roosting, or reproduction) for these species on BLM-administered lands in the planning area.

- Rainbow and red-band trout inhabit streams flowing through 17 miles of BLM-administered land on the east side of the planning area and 12 miles on the west side.

- There are two subspecies of wild turkey in the resource area, the Merriam's and the Rio Grande. The first introduction of the Merriam's subspecies was in 1964 near the Klamath River Canyon. Eight subsequent introductions occurred in the

A mule deer.

1980s. Three of these occurred in the Gerber Block on the east side of the planning area and the remainder were on the west side. Although no firm scientific data exists, it appears that after initial increase and expansion, the population on the west side is stable with the 1988 pre-nesting estimate of 250 turkeys. The turkey population on the east side has been estimated by ODFW at 100-150 birds.

- Osprey occupy habitat throughout the planning area. Systematic inventories were first conducted on the east side in 1989. A total of 12 nests were located, mostly in the Gerber area. Nine of these nests were occupied and produced six young. Although no systematic surveys have been done on the west side, at least two nest sites have been identified in the Klamath River Canyon, of these nest sites one was occupied in 1989.

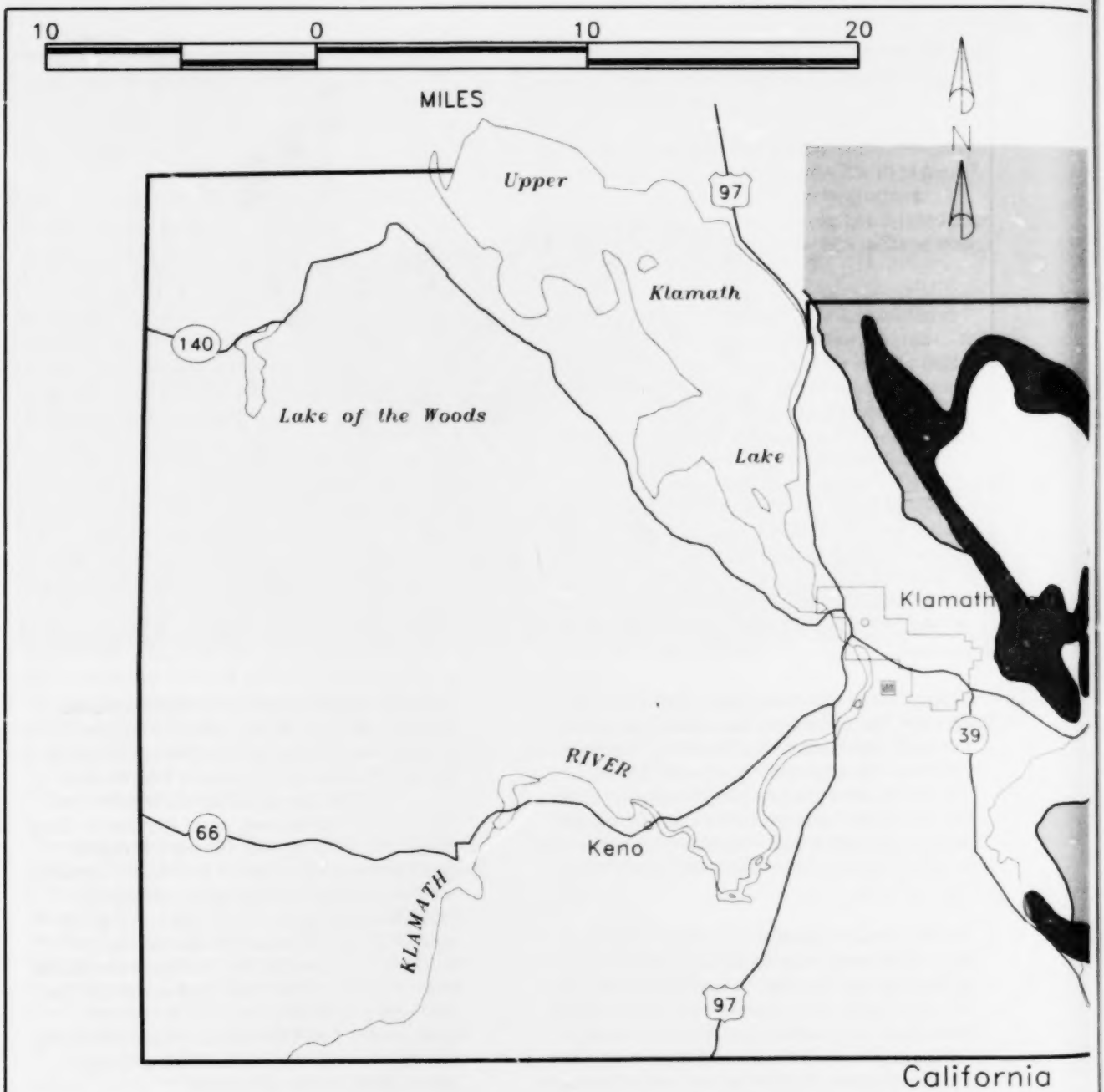
Current Management Direction

Wildlife populations can be affected by management activities that alter habitat, such as timber harvesting, site preparation, and road construction. Livestock grazing, off-road vehicle use, disturbance by recreationists, and irrigation canals and reservoirs can also impact wildlife. To mitigate impacts on wildlife, the resource area has imposed the following requirements on management activities.

- Spotted owls are currently managed under the Jamison Plan (September 1990). This plan protects the 110 sites determined in the ODFW agreement, none of which are in this resource area. The BLM has expanded this interim management for spotted owls under this plan for fiscal years 1990-1992 by not planning any regular green timber sales in any of the Habitat Conservation Areas recommended by the Interagency Scientific Committee. The KFRA only has category 4 areas. Because the spotted owl is a federally listed species, any management actions which affect its habitat must be presented to the U.S. Fish and Wildlife Service (USFWS) for consultation. The USFWS can make recommendations to reduce the impact of the proposed action upon spotted owl habitat.

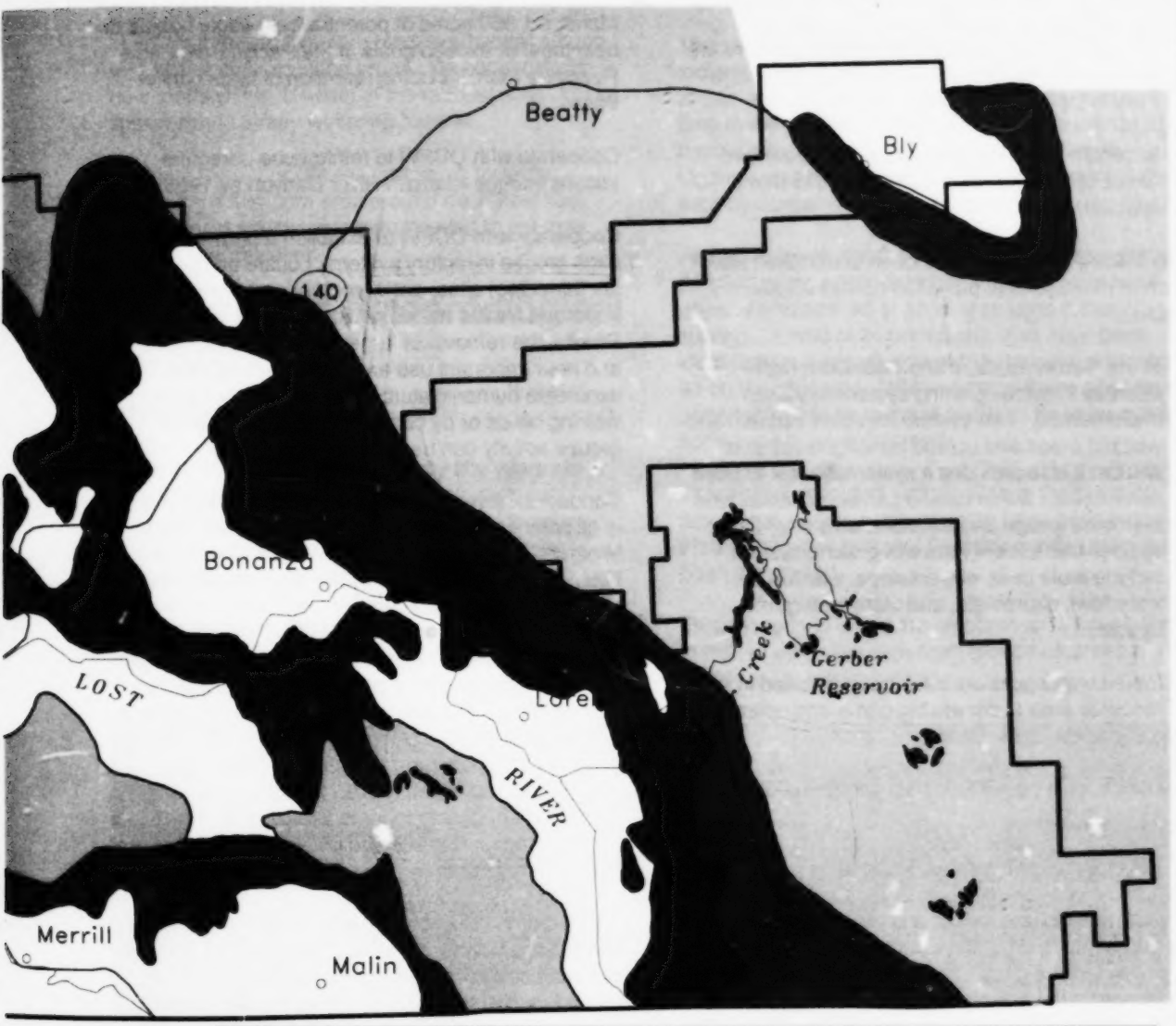
- A total of 220 acres are designated for bald eagle management and protected from timber harvest. Snags are protected within 1/4-mile of nests or roosts that are potential eagle perches.

- Timber management practices on the west side generally limit the size of clearcuts to 40 acres and space harvest units to provide desirable size and arrangement of forage areas for deer and elk. These forage areas also benefit bear, turkey, and woodpeckers.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 5: WILDLIFE HABITAT FEATURES



LEGEND

- Resource Area Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- Planning Area Boundary
- Highway
- Exist and Pot. Bald Eagle Hab.
- Stream
- Urban Area
- City
- Deer Summer Range
- Deer Winter Range
- Crucial Winter Range (CWR)
- Early and Late CWR

- Roads have been closed to general public use at times to limit disturbance to elk, deer, and turkey habitat.

- An average of 1.2 conifer wildlife trees (12" diameter at breast height or greater) per acre are left when lands in the intensive timber management base are harvested.

- In certain areas riparian zones have been protected to preserve habitat important to many species.

The following projects have been undertaken under current management plans to improve wildlife habitat.

- In the Gerber Block, a short-duration, high-intensity livestock grazing system has been implemented. This system improves riparian and wetland areas and upland bunchgrasses and shrubs; it also provides a systematic rest to plant communities within upland gamebird habitat and promotes forage and structural diversity. Other species that benefit from this grazing system include mule deer, elk, antelope, wild turkey, waterfowl, shorebirds, and many non-game species.

- Seven water guzzlers have been installed in the resource area to benefit big game and upland game birds.

- Roads have been closed seasonally on deer winter range.

- Vegetation has been manipulated by prescribed burning or scarification of decadent brush fields to improve habitat for deer and elk. These activities also benefit wild turkeys and black bears.

- Harvest and underburn units have been seeded with grass and legumes to improve habitat for elk, deer, antelope, turkey, and blue grouse.

- Fish habitat improvement projects, including the construction of instream structures, have been completed.

Management Opportunities

Implement land exchanges to acquire important habitat for spotted owls, bald eagles, elk, deer, and turkeys.

Protect all known spotted owl sites, and retain a minimum of 80 core acres around each activity center. Develop silvicultural prescriptions that would allow timber harvest and still protect the characteristics desirable for good spotted owl habitat.

Manage 1,950 acres of potential bald eagle habitat to help meet or exceed goals of the Pacific Bald Eagle Recovery Plan, including retention of large conifer trees.

Cooperate with ODFW to reintroduce peregrine falcons into the Klamath River Canyon by 1995.

Cooperate with ODFW to establish a permanent sage grouse inventory system. Locate and protect lek (breeding) sites, and inventory and monitor other important habitat areas, particularly wintering areas. Prohibit the removal of large tracts of sagebrush in and near important use areas. Protect lek sites from excessive human disturbance, possibly by creating viewing blinds or by controlling vehicle access if grouse activity can be viewed from a road.

Conduct an inventory for Townsend's big-eared bats in all potential habitat on BLM-administered lands. Minimize human disturbance to caves used by the bats. Acquire private lands with caves that contain populations of the bats.

Maintain a cover/forage ratio of 40/60 percent in elk habitat and manage the cover side of the ratio for calving areas. Manage vehicle access to maintain a road density open to vehicular traffic of 2.5 road miles per square mile in elk habitat. Seed 10 percent of total area harvested and 25 percent of clearcut acres in elk habitat to legume and/or grasses for wildlife forage. This seeding would also benefit deer, turkey, and grouse.

Close spur roads in priority deer winter range. Avoid building new roads that would increase disturbance. Limit unit size for all harvest activities to 40 acres with no more than 660 feet to thermal and/or hiding cover and no clearcutting of adjacent units for 10 years after successful establishment. Seed clearcuts and fertilize 50 percent of the total acres harvested annually in priority deer areas. If needed, maintain or create important forage areas by clearcutting, burning, scarification, seeding and fertilizing, and other means. Maintain a cover/forage area ratio of 30/70 in priority summer range and 40/60 in priority winter range.

Provide snags to manage for cavity dwellers at 60 percent population potential in the mixed conifer community. Provide snags through girdling, top blasting, or retention of snags in managed stands.

Stockpile suitable boulders, cull logs, and rootwads in designated areas during normal work operations for future habitat improvements for redband and rainbow trout.

Maintain three- to five-acre blocks of habitat around wild turkey night roosting areas. Do not construct new roads within 1/4-mile of these roost sites. Close spur roads in turkey wintering habitat.

Maintain osprey nest trees and perch trees by managing a five-acre area around each nest tree. Provide nest structures where needed to improve nesting opportunities.

Cultural and Paleontological Resources

Introduction

Any location of past human activity fifty years old or older identifiable through field survey, historical documentation, or oral evidence is considered a cultural resource. This includes prehistoric sites, historic sites or structures, and Native American traditional use areas. Traditional use areas, which may be less than fifty years old, have cultural or religious importance to Native American groups.

Paleontological resources are the fossilized remains of life forms.

Existing Conditions

The planning unit was first occupied by American Indians some 8,000 years ago. Occupation of the region appears to have been continuous from that time to the present. The first historic occupance, by transient fur trappers, began with Peter Skene Ogden's visit to the area in 1829. Settlement of the area by Euroamericans did not begin until the 1860s.

As of October 1, 1990 a total of 19,500 acres of the 212,000 acres within the planning area have been physically examined at an intense level (Class III survey). A total of 24 prehistoric sites have been identified on the west side of the resource area and 93 on the east side. While some of these sites have been evaluated as being of National Register quality, none have been nominated.

There are 5 recorded historic sites in the planning area. Again, while some of these have been evaluated as being of National Register quality, none have been nominated.

Three locations within the resource area have been identified by Native American groups as areas of traditional or religious use.

Topsy School (October 1987), a historic site in the upper Klamath River Canyon.

There are some paleontological sites on BLM-administered lands in the planning area.

Current Management Direction

Federal agencies are responsible for cultural resources on lands under their jurisdiction and for effects of their actions on cultural resources on non-agency lands. Through a group of laws beginning with the Antiquities Act (1906), the BLM has been mandated to protect and manage such resources on lands it administers.

The BLM conducts surveys for cultural resources prior to authorizing surface disturbing activities and prior to the approval of land disposal. Identified cultural resources are evaluated and protected as appropriate to the significance of the resource. Consultation with the State Historic Preservation Office occurs when cultural resources are identified.

Since 1975, cultural resource activity on BLM-administered lands in the planning area has consisted of preparing a Class I inventory overview document and inventorying sites in project areas.

Universities have been encouraged to use inventoried sites in research. The University of Oregon conducted an archaeological field school in the Gerber Reservoir area for three field seasons (1987, 1988, and 1989). Presently there are no research projects being conducted on resource area lands.

Sites continue to be monitored and patrolled to protect them from illegal site disturbance. It is the Bureau's policy to encourage site research, preservation of sites, and Native American use.

Management Opportunities

Continue, and possibly expand, subsurface testing of prehistoric sites to increase available information.

Develop cooperative agreements with universities to complete site inventory and evaluation throughout the resource area as part of university research projects.

Develop cooperative agreements with qualified professional museums for displays and interpretative materials for public use.

Contract for an update of the resource area Class I inventory overview document. An updated overview document combining data from east side and the west side could be prepared and distributed to the public.

Determine the eligibility of portions of Topsy Road for inclusion in the National Register of Historic Places, and if eligible, proceed with the nomination process.

Determine the eligibility of all prehistoric pit house village sites for inclusion to the National Register of Historic Places, and proceed with the nomination process for eligible sites.

Nominate all the prehistoric sites in the Klamath River Canyon as a Historic District to the National Register of Historic Places.

Nominate all the prehistoric sites in the Gerber Reservoir area as a Historic District to the National Register of Historic Places.

Special Areas

Introduction

Special areas are areas identified for special management, such as areas of critical environmental concern (ACECs) and research natural areas (RNAs). ACECs require special attention due to resource concerns, while RNAs are established and maintained for research and education.

Existing Conditions and Current Management

Currently, there are no special areas established in the planning area. However, eleven areas have been identified by the public and BLM staff members as potential ACECs (see map 6). The identified areas were reviewed by an interdisciplinary team composed of BLM managers and staff to determine if they met the ACEC criteria of relevance and importance. The results of that review, as approved by the district manager, are displayed in table 15.

Management Opportunities

Manage the areas identified as meeting ACEC criteria as a result of the review as areas of critical environmental concern.

Manage the areas identified as not meeting ACEC criteria during the review as special areas. These areas are listed in table 16.

Table 15. Results of ACEC Identification and Screening Process

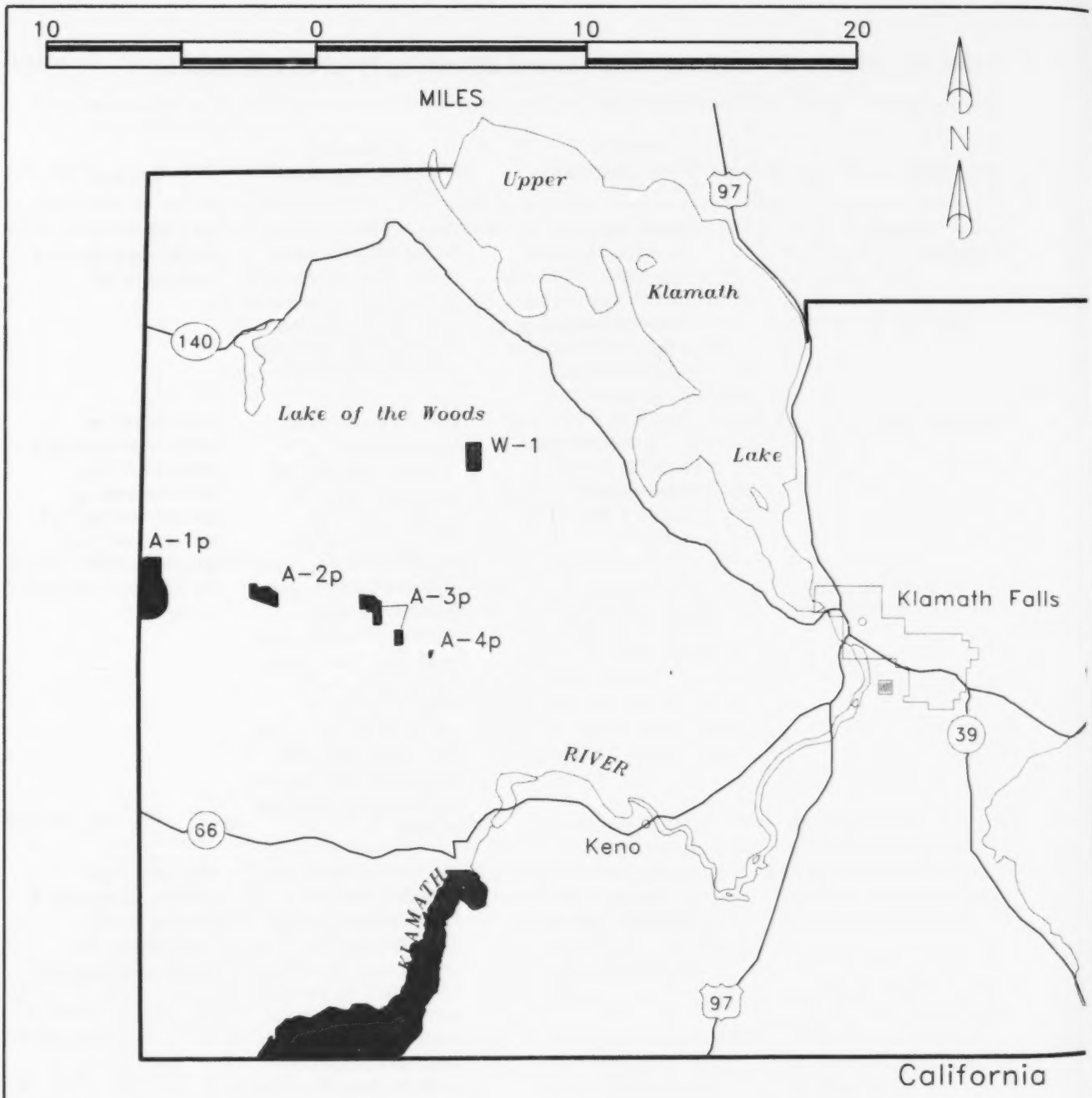
Site Name	Size (Acres)	Description	Screening Results Rationale	Decision
Miller Creek	2,000	Approximately 7 miles of the creek from Gerber Dam down to the Goodlow rim where the creek enters Langell Valley. The boundary extends 200 feet back from the rim to provide a buffer for the canyon. Although the area is currently under withdrawal to the Bureau of Reclamation, the resource management remains the BLM's responsibility.	Meets the criteria of relevance and importance for wildlife, natural process, and scenic resources. The area is unique in the region and offers a rare opportunity to protect a riverine canyon in an arid plateau region that is essentially in its natural condition.	Further evaluate the area as a potential ACEC.
Pacific Crest Trail—Old Baldy Area	620	1/2-mile of the Pacific Crest Trail located on BLM-administered lands in Klamath County, including area immediately surrounding Old Baldy.	Meets the criteria for relevance and importance for natural systems and scenic resources. The area's high elevation brushfields present a potential research natural area (RNA) not represented elsewhere in the RNA system.	This area was proposed to the Medford District BLM for ACEC designation in 1987. The KFRA will follow the Medford District's previous decision to further evaluate the area as a potential ACEC.
Upper Klamath River	5,700	Approximately 11 miles of the upper Klamath River Canyon from rim to rim, extending from John C. Boyle Powerhouse to the California border.	Meets the criteria of relevance and importance for historic, cultural, scenic, fisheries, and wildlife populations and habitat. All these resource values have more than local significance and are unique or rare for the region.	Further evaluate the area as a potential ACEC.
Yainax Butte	720	Isolated mountain located eight miles south of Beatty, Oregon. The top of the mountain is all BLM-administered.	Meets the criteria for relevance and importance for natural systems, including diverse natural plant species.	Further evaluate the area as a potential ACEC.

Table 15. Results of ACEC Identification and Screening Process (continued)

Site Name	Size (Acres)	Description	Screening Results Rationale	Decision
Alkali Lake	240	Wetland area located in Yonna Valley.	Does not meet criteria for relevance and importance. Although an important wetland for migratory waterfowl, including geese and sandhill cranes, and for wintering deer, the area is only locally significant. In addition, the BLM has only scattered land holdings and lacks legal access.	Area will not be further evaluated as a potential ACEC. Evaluate the area for special management.
Barnes Valley Creek	480	Barnes Valley from Main Haul Road where it flows through a narrow canyon to Gerber Reservoir.	Meets criteria for relevance but not importance. Scenic values found in the canyon area are significant; however, they are not as unique or distinct as the scenic values in Miller Creek canyon.	Area will not be further evaluated as a potential ACEC.
Bumpheads	50	Two volcanic formations located at the south end of Gerber Plateau. They rise above the plateau by 80-100 feet.	Does not meet the criteria for relevance and importance. Also the area is too small to qualify for ACEC/RNA designation. Scenery is only of local significance.	Area will not be further evaluated as a potential ACEC. Evaluate area for special management.
Clover Creek	30	A small drainage used by local elementary classes for educational projects and classroom instruction.	Does not meet criteria for relevance or importance. While the site has value for education on a local level, it does not possess any regional significance that warrants ACEC nomination.	Area will not be further evaluated as a potential ACEC. Evaluate the area for special management.

Table 15. Results of ACEC Identification and Screening Process (continued)

Site Name	Size (Acres)	Description	Screening Results Rationale	Decision
Lower Goodlow Mountain	1,760	Lower elevations of Goodlow Mountain. The higher elevations of the mountain have been designated as an RNA on the Fremont National Forest.	Does not meet criteria for relevance or importance. Plant communities on BLM lands do not differ appreciably from those already protected in the existing RNA.	Area will not be further evaluated as a potential ACEC.
Spencer Creek	320	Approximately 1 mile of BLM ownership. Area covered by a Coordinated Resource Management Plan (CRMP).	Meets the criteria for relevance and importance for fisheries and meets relevance for scenic value. The fisheries resource is significant for it is one of only two streams that provide spawning habitat for the wild trout population that inhabits the upper Klamath River. The scenic resource does not meet the criteria due to the fragmented land pattern and a visually impacted corridor.	Area will not be further evaluated as a potential ACEC. Evaluate area for special management, and continue management under the Spencer Creek CRMP.
Tunnel Creek Wetlands	280	Lodgepole pine swamp located between Keno Road and Buck Lake.	Area meets the criteria for relevance and importance for natural process or system. The unique wetland communities and their benefit to a diverse population of wildlife species warrant special management consideration. However the site, which is surrounded by private land, is too small and isolated to be adequately managed as an ACEC.	Area will not be further evaluated as a potential ACEC. Evaluate area for special management.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 6: POTENTIAL SPECIAL AREAS

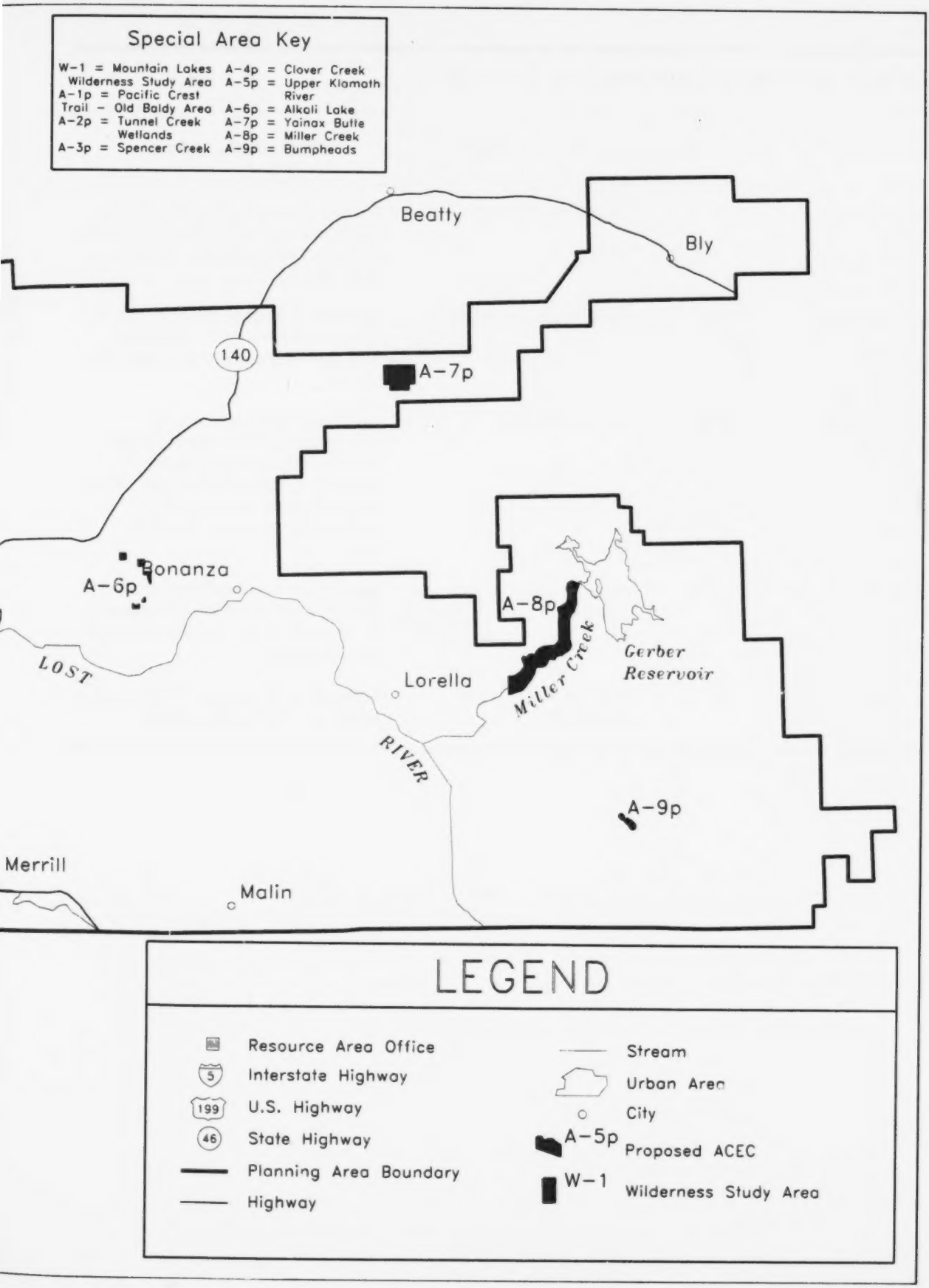

Special Area Key
W-1 = Mountain Lakes Wilderness Study Area
A-1p = Pacific Crest Trail - Old Baldy Area
A-2p = Tunnel Creek Wetlands
A-3p = Spencer Creek
A-4p = Clover Creek
A-5p = Upper Klamath River
A-6p = Alkali Lake
A-7p = Yainax Butte
A-8p = Miller Creek
A-9p = Bumpheads
Beatty
Bly
140
A-7p
Bonanza
A-6p
A-8p
LOST
Lorella
Miller Creek
Gerber Reservoir
RIVER
A-9p
Merrill
Malin
LEGEND
Resource Area Office
Interstate Highway
5
U.S. Highway
199
State Highway
46
Planning Area Boundary
Highway
Stream
Urban Area
City
A-5p
Proposed ACEC
W-1
Wilderness Study Area

Table 16. Potential Special Areas Other Than ACECs

Site Name	Site (Acres)	Primary Values	Potential Management
Clover Creek	30	Forest and education	Manage area in conjunction with the Extension Service to provide maximum diversity of forest, wildlife, and recreation values.
Spencer Creek	320	Fisheries and scenic value	Continue to manage the area under the Spencer Creek CRMP. Provide for fisheries enhancement and recreation access.
Tunnel Creek Wetlands	280	Wetland habitat	Coordinate management with Weyerhaeuser and adjacent private land-owners, or acquire significant wetlands to facilitate management for wetland values. Remove area in wetland management from timber base.
Alkali Lake	240	Wetland habitat, wildlife, and waterfowl	Acquire significant wetlands in private landholdings to facilitate management for wetland values. Develop waterfowl nesting habitat.
Bumpheads	50	Plant communities and scenic value	Fence off gentle slopes of Bumpheads to isolate area from cattle grazing.

COMMENT
RESPONSE
FORM

COMMENTS ON THE ANALYSIS OF THE MANAGEMENT SITUATION FOR THE

_____RESOURCE MANAGEMENT PLAN

(You may wish to comment on the accuracy of the information displayed or to suggest additional information that should be considered.)

SUGGESTIONS FOR THE PREFERRED ALTERNATIVE FOR THE_____
RESOURCE MANAGEMENT PLAN

(You may wish to suggest (1) one of the five alternatives outlined in Appendix 3, (2) a new alternative blending elements from more than one of those five, (3) and/or continuation of specific parts of current management direction, and/or (4) implementation of specific management opportunities.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

NAME_____

ADDRESS_____

_____

_____

_____

Place
Stamp
Here

U.S. Department of the Interior
Bureau of Land Management
Klamath Falls Resource Area
2795 anderson Avenue, Bldg. 25
Klamath Fall, Oregon 97603

Recreation

Existing Conditions

An estimated 322,000 annual recreation visits are made to BLM-administered lands in the planning area. There are three developed and seven semi-developed recreation sites on these lands (see map 7). Hunting, fishing, hiking, horseback riding, general sightseeing, winter sports, whitewater rafting, and driving recreational vehicles account for the majority of use outside the developed recreation areas. There is one mile of developed hiking/horseback trail. There are 207 miles of BLM-controlled access road open to motorized travel. Most vehicle use is limited to existing roads, because unroaded terrain and vegetation are such that they discourage driving off-road. All but about 9,700 acres are designated as open to off-road vehicle use. About 1,530 acres are closed to off-road vehicle use while 8,320 acres are designated for use limited either to roads and trails or to certain seasons, to protect sensitive resources.

Recreation use is concentrated in 12 locations: the upper Klamath River, Hamaker Mountain, Upper Midway Reservoir; Topsy, Gerber, and Surveyor recreation sites; Basin, Wildhorse, Rock Creek, and Miller Creek hunter camps; and Potholes and Stan H. Springs semi-developed recreation sites (see map 7).

Current Management Direction

All BLM-administered lands fall into two recreation management classes—Special Recreation Management Areas (SRMAs) and Extensive Recreation Management Areas (ERMAs). A small proportion of the lands in the planning area are managed as SRMAs. In these areas a commitment has been made to provide specific recreation opportunities, which includes sites where major investments in recreation facilities have been made. Management objectives for these areas include providing recreation opportunities that would not otherwise be available to the public, reducing conflict among users, minimizing damage to resources, and reducing visitor health and safety problems. Existing SRMAs are shown in table 17 and displayed on map 6. All other lands are managed as an ERMA.

The BLM's pro-rata share of recreation demand increases anticipated for the planning area by the year 2000 (derived from the State Comprehensive Outdoor Recreation Plan) is compared in table 18 to current estimated recreation activity on BLM-administered lands.

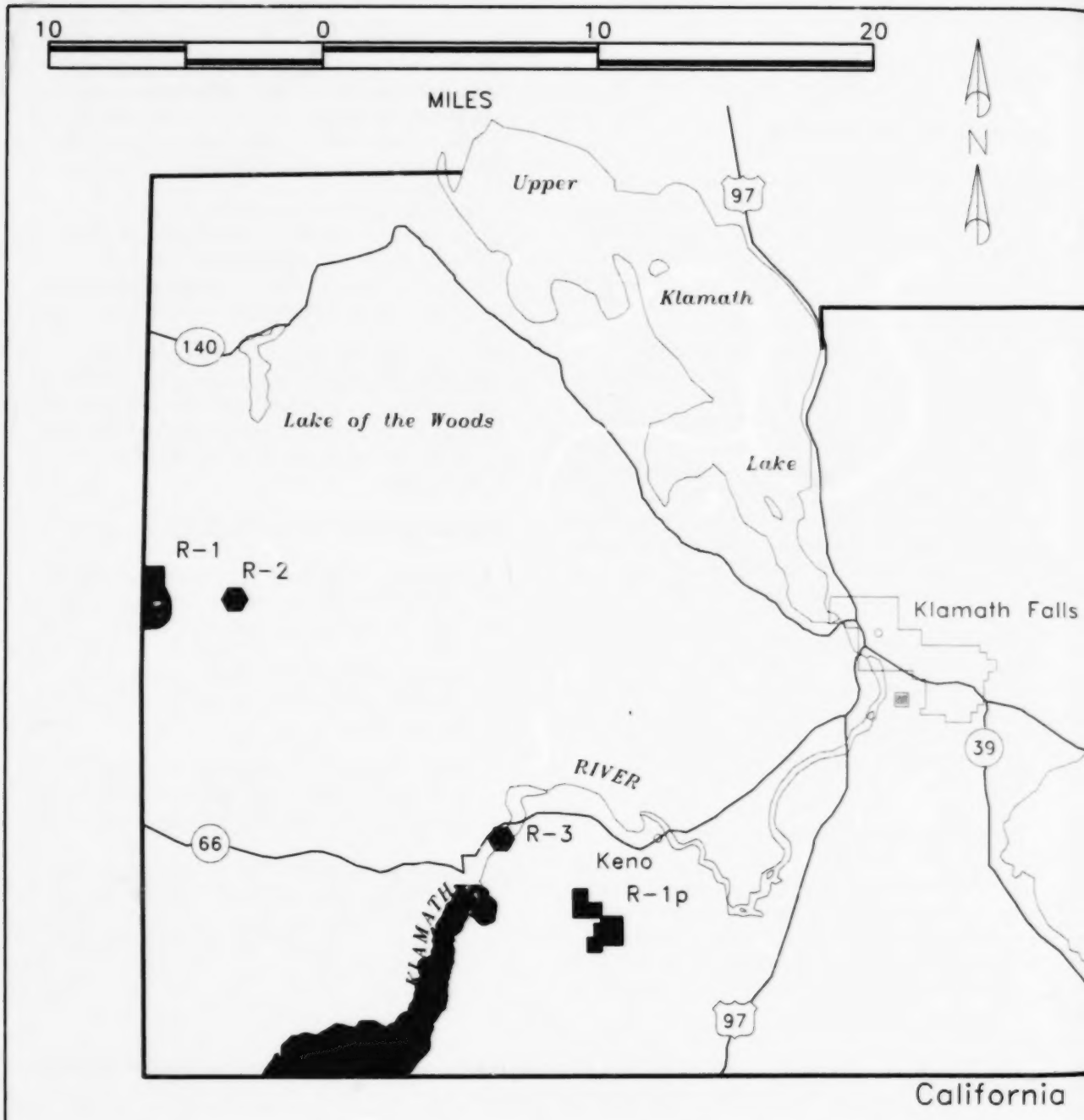
Management Opportunities

The following opportunities have been identified for the BLM to enhance recreation opportunities to help meet demand increases during the 1990s.

- Improve existing facilities and access for the physically limited at the Klamath River and Topsy recreation sites.
- Acquire Topsy Road through deed or enter into a cooperative maintenance agreement with Klamath and Siskiyou counties to upgrade the road.
- Acquire privately-owned lands, designate public access and off-road vehicle routes, and improve access on Stukel Mountain. Develop new recreation sites for hang gliding, target shooting, and overnight camping.

Table 17. Special Recreation Management Areas

SRMA Name	Size (Acres)	Annual Visits	Other Relevant Data
Klamath River Complex	7,420	17,000	Includes Topsy Recreation Site and Klamath State Scenic Waterway.
Pacific Crest Trail	40	10,000	1/2-mile segment is located on Klamath Falls Resource Area lands while the rest of the area is on Medford District BLM lands.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 7: RECREATION SITES

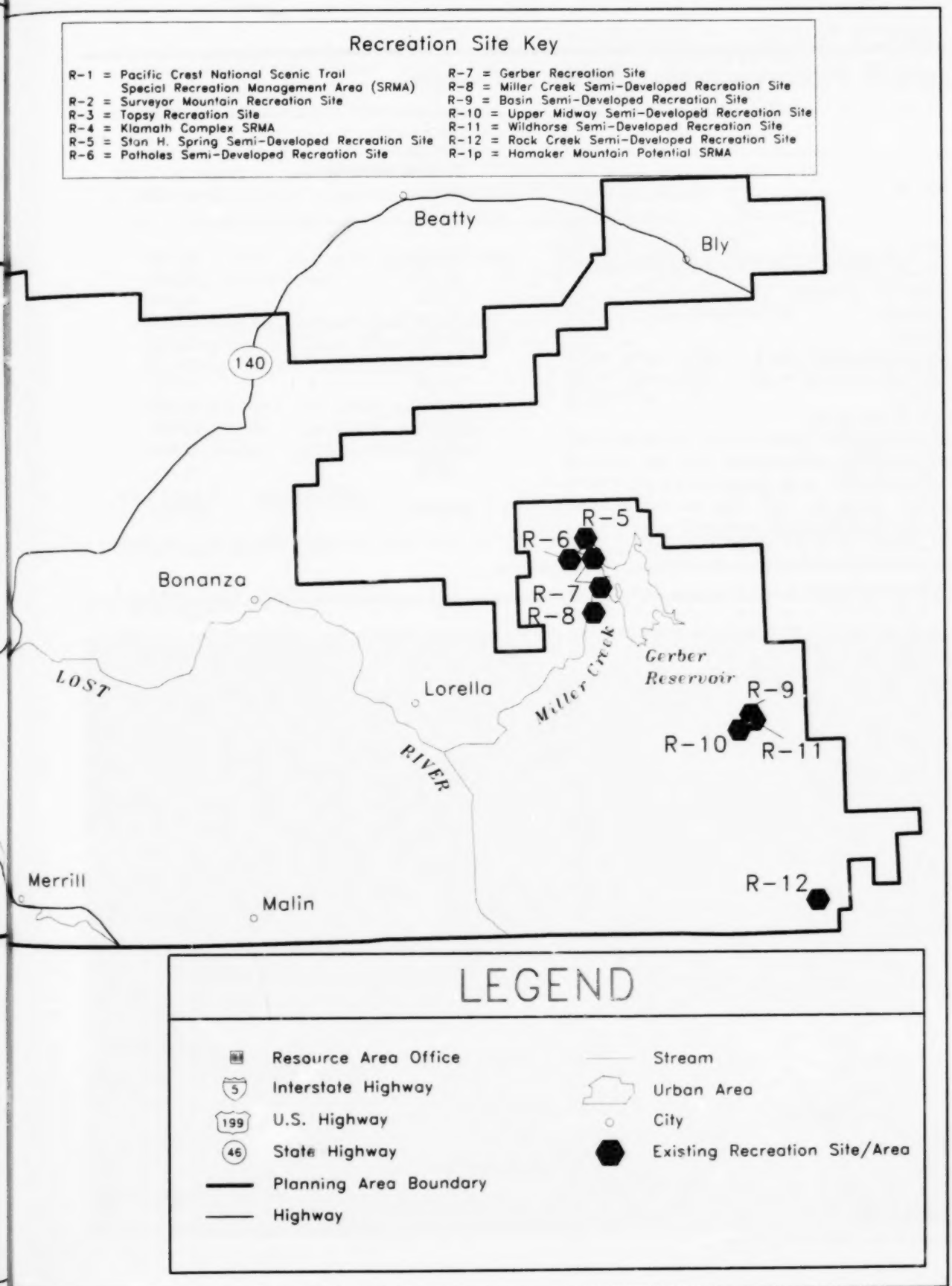
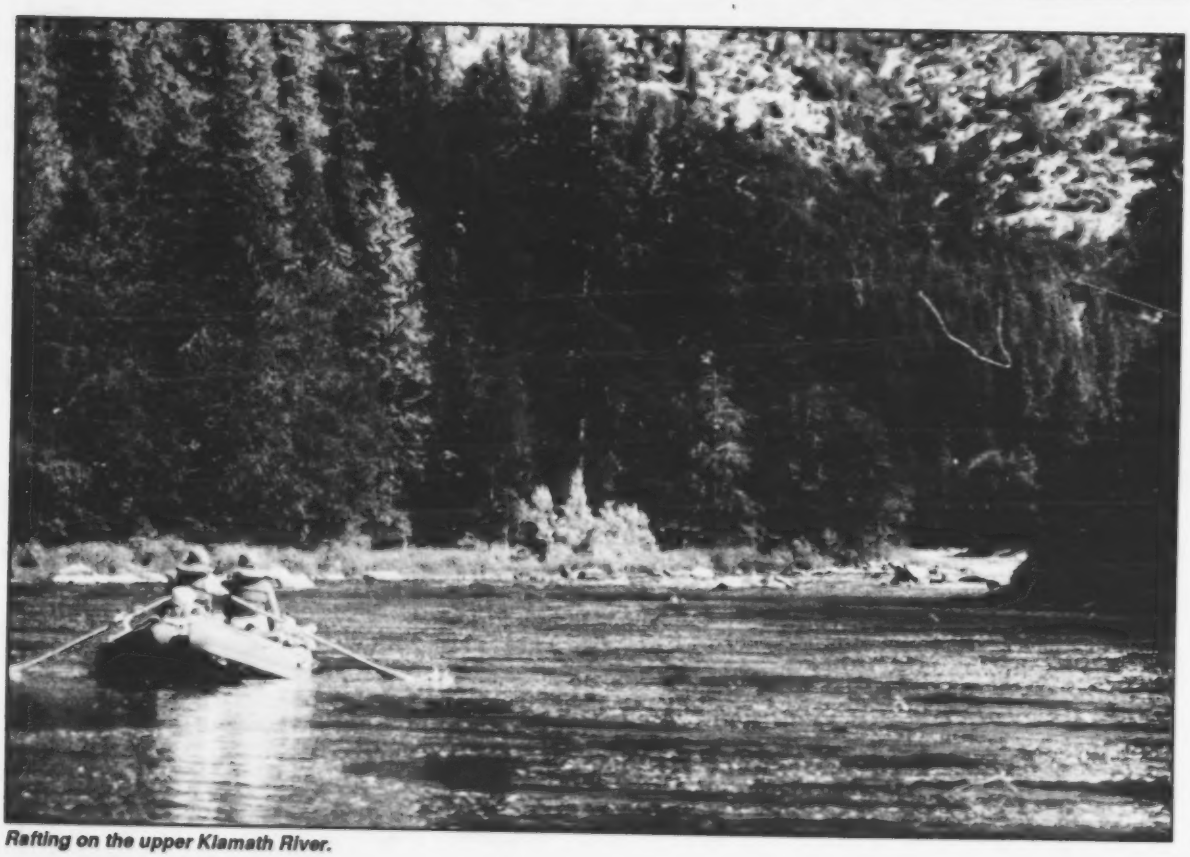

Recreation Site Key
R-1 = Pacific Crest National Scenic Trail Special Recreation Management Area (SRMA)
R-2 = Surveyor Mountain Recreation Site
R-3 = Topsy Recreation Site
R-4 = Klamath Complex SRMA
R-5 = Stan H. Spring Semi-Developed Recreation Site
R-6 = Potholes Semi-Developed Recreation Site
R-7 = Gerber Recreation Site
R-8 = Miller Creek Semi-Developed Recreation Site
R-9 = Basin Semi-Developed Recreation Site
R-10 = Upper Midway Semi-Developed Recreation Site
R-11 = Wildhorse Semi-Developed Recreation Site
R-12 = Rock Creek Semi-Developed Recreation Site
R-1p = Hamaker Mountain Potential SRMA
Beatty
Bly
140
Bonanza
R-5
R-6
R-7
R-8
Gerber Reservoir
Miller Creek
LOST
Lorella
RIVER
R-9
R-10
R-11
R-12
Merrill
Malin
LEGEND
Resource Area Office
Interstate Highway
U.S. Highway
State Highway
Planning Area Boundary
Highway
Stream
Urban Area
City
Existing Recreation Site/Area

Table 18. Projected Increases in Demand for Recreation

Activity	Estimated Current Visits	Projected Visits Year 2000
Off-road use	35,900	49,100
Motorized travel	50,300	74,400
Nonmotorized travel	27,900	45,900
Camping	41,300	58,300
Hunting	27,500	31,200
Other land-based	56,200	88,100
Fishing	36,200	46,100
Boating	13,500	19,400
Other water-based	18,800	24,900
Winter sports	8,400	11,700
Snowmobiling visits	6,500	8,700
Total	**322,500**	**457,800**

Source: derived from the State Comprehensive Outdoor Recreation Plan.



Rafting on the upper Klamath River.

- Improve access for the physically limited to the Gerber recreation site facilities. Develop an interpretive plan and install interpretive signing. Improve semi-developed campsites located in Gerber Block. Designate off-road vehicle routes.
- Open the Surveyor recreation site that was closed due to reduced recreation maintenance funding.
- Develop recreation sites and a barrier-free hiking trail along Spencer Creek.
- Develop hiking trails in the Klamath River Complex, along Swan Lake Rim, Miller Creek, Barnes Valley Creek, and in the Potholes area.
- Develop winter sports/mountain bike trails, toilets, and shelters on Hamaker Mountain. Repave Hamaker Mountain road to improve access.

Visual Resources

Existing Conditions

There are approximately 33,400 acres of BLM-administered lands in the planning area that have high to moderate scenic qualities and high visual sensitivity levels (see map 8).

Current Management Direction

Visual quality is affected by management activities, particularly timber harvest and road construction. To mitigate visual impacts, the resource area has imposed the following requirements on management activities.

- On 150 acres being managed to maintain the highest scenic qualities there will be no timber harvest or road construction.
- On 17,300 acres being managed to maintain high to moderate scenic qualities, management objectives are being met by vegetative screening, partial cutting, and retention shelterwood cutting.
- On 52,800 acres being managed to maintain moderate to low scenic qualities with high to medium sensitivity levels, management objectives are being met by shelterwood cutting, partial cutting, and minimizing clearcut areas.

Management Opportunities

Manage the Klamath River Complex to maintain the highest scenic qualities.

Manage an additional 16,100 acres of high to moderate scenic qualities and high sensitivity levels, to maintain their scenic qualities.

Extend timber harvest rotations and limit clearcut size to five acres on 80,200 acres of moderate to low scenic qualities with high to moderate sensitivity levels.

Wild and Scenic Rivers

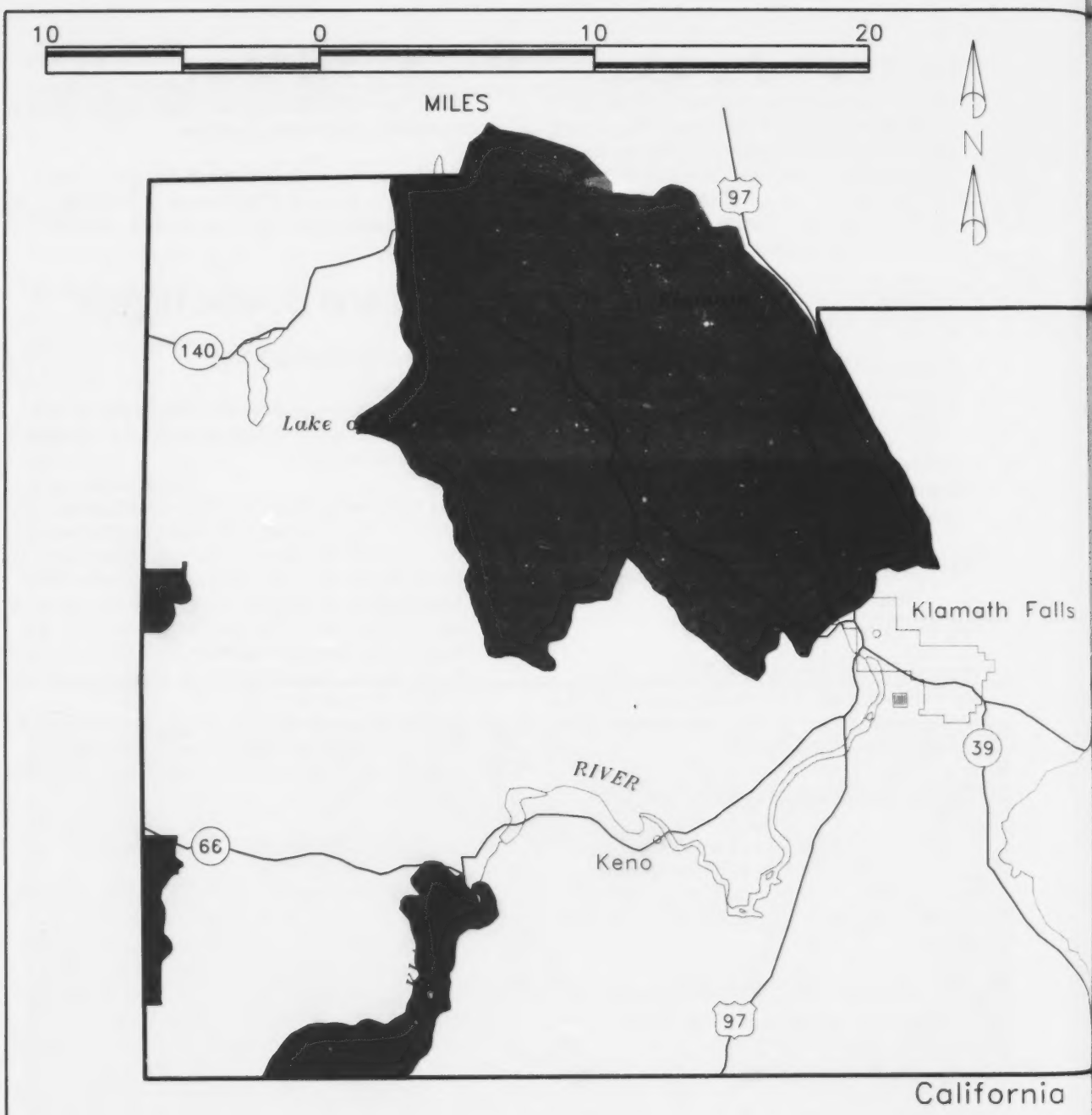
Existing Conditions

There are no rivers in the planning area that have been designated by Congress under the Wild and Scenic Rivers Act.

The Nationwide Rivers Inventory identifies one river segment (the upper Klamath River) on BLM-administered lands in the planning area. Additional information indicates that eight other river segments could potentially be designated as national wild, scenic, or recreational rivers. The BLM applied eligibility and classification criteria established in U.S. Department of the Interior - Department of Agriculture guidelines to each of these river segments. The status of eligibility determinations for these rivers is shown in table 19. The upper Klamath River was added to Oregon's State Scenic Waterway System in November 1988.

Current Management Direction

As shown, the BLM found that seven river segments (including one segment in California) meet the eligibility criteria for federal designation (that is, the segment is free flowing and has at least one outstandingly remarkable value); therefore, these segments are worthy for suitability study. The six segments in the KFRA, displayed on map 9, will be studied in the RMP process to determine their suitability for wild and scenic river designation. The BLM already studied the eligibility and suitability of the upper Klamath River and reported the results in the Final Eligibility and Suitability Report for the Upper Klamath Wild and Scenic River Study (March 1990). Those river segments found suitable in the final RMP will be further addressed in a subsequent legislative environmental impact statement (EIS). In this EIS, the Department of the Interior will formulate recommendations to be sent to Congress proposing which segments should be designated. Legislation is the only way river segments can be designated under the National Wild and Scenic Rivers System.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 8: VISUALLY SENSITIVE AREAS

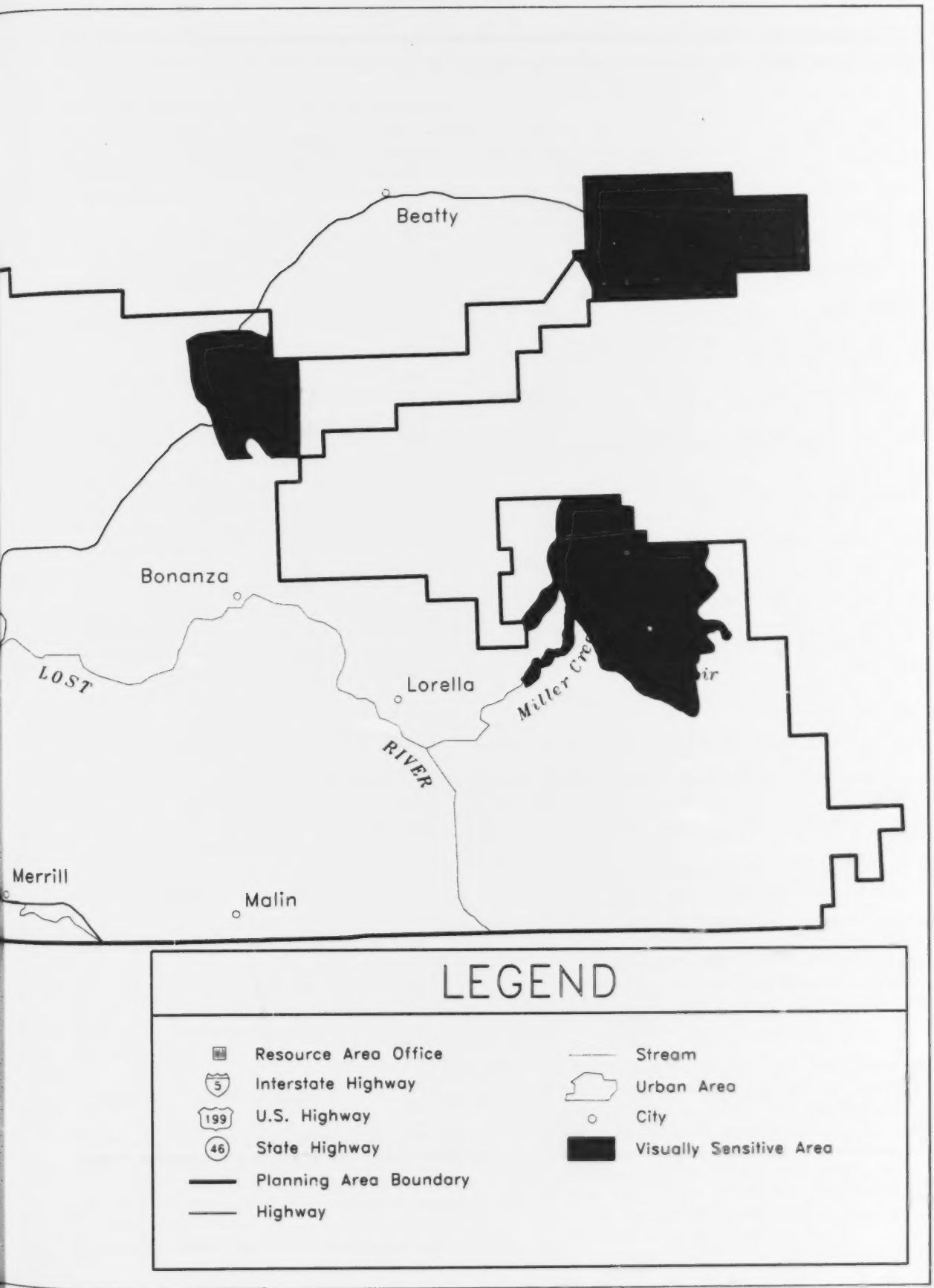

Beatty
Bonanza
LOST
Lorella
RIVER
Merrill
Malin
LEGEND
Resource Area Office
Interstate Highway
U.S. Highway
State Highway
Planning Area Boundary
Highway
Stream
Urban Area
City
Visually Sensitive Area

Table 19. Potential Wild, Scenic, and Recreation Rivers

River Name	Eligibility[1]	Potential Classification	ORVs	Total Miles	Percent BLM	Reason[2]
Miller Creek	Yes	Scenic	S	6.5	100	C
Barnes Valley Creek	Yes	Scenic	S	5.6	93	C
Spencer Creek	Yes	Scenic	S, F	3.0	43	C
Antelope Creek (seg. A)	Yes	Scenic	P	5.4	75	C
Antelope Creek (seg. C)	Yes	Scenic	P	2.7	100	C
Antelope Creek (seg. B)	No[4]	N/A	N/A	0.5	100	C
Upper Klamath River (Oregon) (seg. 1)	No[4]	N/A	F, R	4.2	70	A & B
Upper Klamath River (Oregon) (seg. 2)	Yes	Scenic	H, P, R, S, F, W, T	11.0	75	A & B
Upper Klamath River (California) (seg. 3)	Yes	Scenic	R, F, W, H, S	5.3	11	A & B
Rock Creek	No[3]	N/A	None	3.0	84	C
East Branch Lost River	No[3]	N/A	None	2.0	100	C

[1]A river segment is eligible for inclusion in the National Wild and Scenic Rivers System if it is free-flowing and has one or more outstandingly remarkable values.

[2]Reason for Consideration

A = Nationwide Rivers inventory
B = 1988 Outstanding Rivers list - American Rivers Inc.
C = Lakeview District Rivers list

[3]Not eligible because no outstandingly remarkable values.

[4]Not eligible because not free-flowing.

Abbreviations used in this table:
ORV= Outstandingly Remarkable Values
S = Scenic
R = Recreation
F = Fish
H = Historic
P = Prehistoric
T = Native American Traditional Use
N/A = Not applicable

Management Opportunities

Manage each eligible river segment to protect or enhance all of their outstandingly remarkable values on BLM-administered land until the river segment is determined non-suitable or not recommended for designation.

Develop a management plan to explore specific management opportunities for any federally designated river segments.

Wilderness

Existing Conditions

The Klamath Falls Resource Area staff identified and inventoried one site on BLM-administered lands in the planning area with wilderness characteristics and values, and established it as the Mountain Lakes wilderness study area (WSA). This 334-acre WSA is entirely located on BLM-administered land, and is shown on map 6.

The Mountain Lakes wilderness study area was addressed in the BLM's Oregon Wilderness Environmental Impact Statement (EIS). The Final EIS was published in 1989 and the President's recommendations are expected to be sent to Congress no later than October 1993.

Current Management Direction

The wilderness values in this area will be protected by the BLM until Congress releases the area or designates it as a wilderness area, which would continue its protection.

Minerals

Introduction

The BLM minerals program consists of saleable (such as gravel and cinder), locatable (such as gold and silver), and leasable (such as oil and gas) minerals.

Existing Conditions

Since 1980, mineral activity on BLM-administered lands in the planning area has consisted primarily of cinder and rock production to support timber harvest activities and for county roads and state highways. During the early 1980s, the few oil and gas and geothermal leases issued were terminated without any exploration activity. Locatable mineral exploration has been negligible.

As of July 1, 1990, there were 27 mining claims in the resource area. No mining notices of intent or plans of operation have ever been filed. There are no current geothermal or oil and gas leases. Eighteen rock and cinder pits produce an average of 80,000 cubic yards of material annually.

Current Management Direction

It is the Bureau's policy to encourage exploration and development of minerals using environmentally sound practices. Most lands in the planning area are open to such activities. Table 20 displays these areas by mineral type and potential.

Management Opportunities

Provide access to many of the resource area lands that are surrounded by private lands to open more public land to mineral exploration.

Revoke unneeded withdrawals and discretionary closures that restrict mineral exploration.

Lands and Rights-of-Way

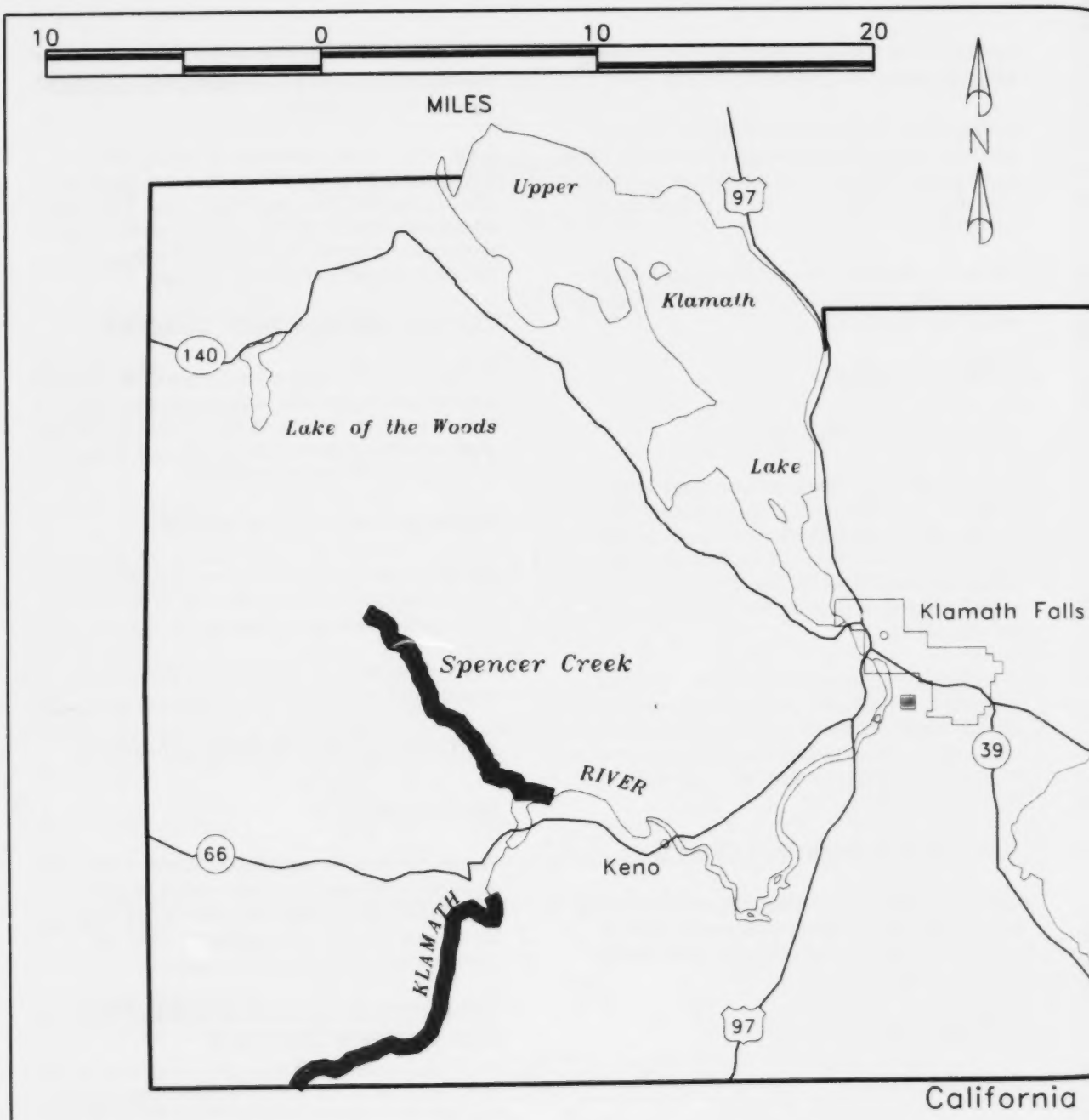
Introduction

Though there is one well-blocked parcel, most land on the west side lies in a checkerboard pattern, intermingled with primarily privately-owned lands. On the east side, BLM-administered lands are generally large, well-blocked parcels.

Existing Conditions and Current Management Direction

Since approval of the current land use plan in 1983, 40 acres have been sold, while 70 additional acres have been transferred out of public ownership in exchange for 160 acres of other lands to be administered by the BLM.

The current plan identified 21,000 acres of land for disposal, mostly by exchange. There is one active proposal pending to dispose of 997 acres of public land in exchange for an equal value of private land. There are several small encroachments of private improvements across property lines, totaling about 10 acres, which could be resolved by exchange or sale. Unauthorized agricultural use of 15 acres could also be resolved by exchange or sale.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 9: WILD, SCENIC, AND RECREATIONAL RIVERS

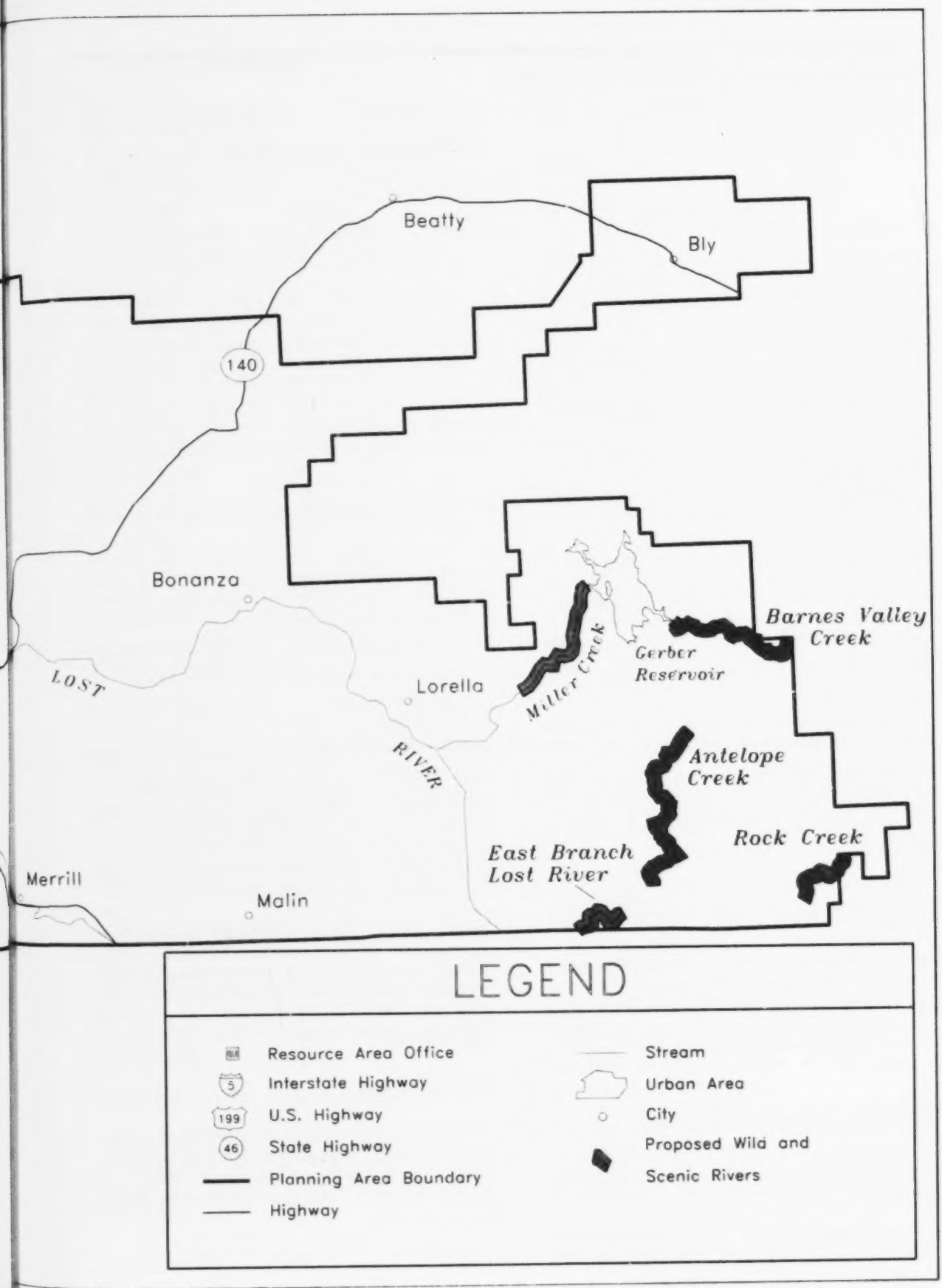

Beatty
Bly
140
Bonanza
Lorella
LOST
RIVER
Merrill
Malin
Miller Creek
Gerber Reservoir
Barnes Valley Creek
Antelope Creek
Rock Creek
East Branch Lost River
LEGEND
Resource Area Office
Interstate Highway
U.S. Highway
State Highway
Planning Area Boundary
Highway
Stream
Urban Area
City
Proposed Wild and Scenic Rivers

Table 20. Mineral Potential and Restrictions

Potential	Management Categories (Acres)			
	Open	Open Restricted[1]	Closed Discretionary[2]	Closed Non-discretionary[3]
Locatable Minerals				
Low Potential	97,200	1,500	0	300
Moderate	97,700	25,500	0	4,800
High	400	500	0	0
Oil and Gas				
Low Potential	0	0	0	0
Moderate	150,700	79,700	300	0
High	0	0	0	0
Geothermal Resources				
Low Potential	0	0	0	0
Moderate	150,400	77,100	300	0
High	300	1,200	0	0
Salable Minerals				
Low Potential	0	0	0	0
Moderate	159,600	68,100	300	0
High	700	600	0	0

[1]Includes off-road vehicle closures, visual or seasonal constraints, threatened and endangered species locations, and "no surface occupancy" stipulations.
[2]Discretionary closures.
[3]Non-discretionary closures.

Several existing utility corridors cross BLM-administered lands in the planning area. No proposals for additional corridors are known, but upgrading of existing facilities is likely.

There are seven developed hilltop or ridgetop communication sites on BLM-administered lands. Five sites have public access and four have utility service. Anticipated demand for additional microwave and emergency radio communications sites is likely to lead to proposals to expand use of two of those sites and to require the development of new sites on BLM-administered lands during the 1990s. Potential locations for new sites have not been identified.

Management Opportunities

Initiate exchange of about 1,200 acres of BLM-administered lands to improve BLM's management efficiency.

Four preliminary permits to study the feasibility of pumped water storage projects on public lands have been issued by the Federal Energy Regulatory Commission. Issue rights-of-way authorizing use of BLM-administered land prior to construction of any environmentally and fiscally sound project.

Issue a rights-of-way authorizing the use of BLM-administered land for the construction and operation of the proposed Salt Caves hydroelectric project on the upper Klamath River.

Roads

Introduction

The road system serving BLM-administered lands provides access for the harvest of timber and other forest products, intensive forest management, recreation, mineral exploration and removal, and to rural home sites.

Existing Conditions

There are 518 miles of BLM-controlled roads in the planning area. Of these, 224 miles are surfaced for all-weather use. Preventive maintenance of the roads controlled by the BLM occurs on a regular cycle; corrective maintenance occurs as problems are identified.

Current Management Direction

Under current resource area policies, 33 miles of road are closed to public use throughout the year to protect the road surface and minimize erosion, or to minimize disturbance to wildlife. Another 52 miles are closed seasonally (winter and early spring) for the same purposes. If management continued under the current land use plan, approximately 80 miles of new road would be constructed to support management activities.

Management Opportunities

Use road closures more extensively to lessen subgrade soil erosion, maintenance, and impacts to wildlife. Although guard rails and log fills are used more extensively, other types of traffic barriers such as gates and berm and ditches could be used effectively to close roads.

Decrease impacts created by roads by restoring areas to near original condition. Restoration activities may include scarifying the road bed, seeding with grass or planting tree seedlings, and waterbarring. Restored roads should generally be short spur roads where access is not needed for future resource management or timber harvest.

Access

Existing Conditions

In general, legal access is available to most BLM-administered lands in the planning area for BLM management (including timber removal) but only 55 percent of the lands are legally accessible to the general public.

Management Opportunities

Acquire up to 25 additional road easements to access all public lands in the resource area. Acquire another 16 to support the future timber management program.

Negotiate public access rights in conjunction with existing reciprocal rights-of-way agreements that now permit access only for BLM administration and timber harvest.

Fire

Existing Conditions

Wildfires burned 551 acres of BLM-administered lands on the east side of the Klamath Falls Resource Area from 1980 through 1989. On the west side of the resource area wildfires burned 1,030 acres in the same period. In both areas the primary cause of wildfire is lightning.

Current Management Direction

Current management is to control wildfires on or threatening BLM-administered lands at the least total combined cost of fire suppression, land rehabilitation, and resource loss.

Fire protection on the east side of the resource area is provided by the Lakeview District BLM through an established fire protection plan. Fire protection on the west side of the resource area is provided through a contract with the Oregon Department of Forestry, which also provides fire protection on the intermingled private lands.

Prescribed (intentional) fires are used to prepare recently logged sites for planting and to reduce wildfire hazard caused by the unnatural accumulation of fuels from earlier unmitigated land management activities. Occasionally prescribed burns are also conducted for wildlife habitat improvement. The acres burned by prescribed fire in recent years are shown in table 21.

Management Opportunities

Expand the use of prescribed fire to reduce wildfire hazard especially in the ponderosa pine and mixed conifer vegetative types on the west side lands.

Reduce wildfire hazard through managing the vegetation complex in a manner to make it less susceptible to wildfire damage.

As a part of logging contracts or as separate hazard reduction programs, expand the use of hand piling, gross yarding, and yarding of tops and other debris to reduce fuel loadings thus reducing wildfire hazard.

Increase efforts in our current education program on fire prevention.

Table 21. Acres Burned by Prescribed Fire

CY	Logging Slash (Acres)			Hazard Reduction (Acres)	Wildlife (Acres)	Total (Acres)
	Site Prep Piled	Total Piled[1]	Broadcast			
			West Side			
1988	590	655		0	0	655
1987	40	45	30	0	0	75
1986	50	55	130	0	0	185
1985	170	190	60	0	50	300
1984	370	410	20	0	0	430
1983	580	645	NR[2]	0	0	645
1982	160	175	NP[2]	0	0	175
1981	230	255	NR[2]	0	30	285
1980	150	165	NR[2]	0	0	165
Total		**2,595**	**240**	**0**	**80**	**2,915**
1980 to 1988 Yearly Average		290	60	0	9	

[1]Total piles include site prep acres increased by 9 percent to account for landing piles.
[2]"No Record" years with NR not used in yearly average.

CY = Calendar Year

CY	Logging Slash (Acres)	Hazard Reduction (Acres)	Wildlife (Acres)	Total (Acres)
		East Side		
1988	170	360		530
1987	680	450		1,130
1986	30	100	80	210
1985	200	305	65	570
1984	80[3]	140		220
1983	0[3]	35[2]		35
1982	25[3]	0[1]		25
1981	100[3]	20[1]		120
1980	5[3]	5[1]		10
Total	**1,290**	**1,415**	**145**	**2,850**
1980 to 1988 Yearly Average	143	157		

[1]Data not used to formulate yearly average.
[2]Information based on professional recollection-information not used to formulate yearly average.
[3]Based on professional recollection derived from sale information.

Socioeconomic Conditions

Klamath County is the primary county that would be economically affected by activities on BLM-administered lands in the planning area. The 1988 population of Klamath County was estimated to be 57,300; this is a slight decline (less than 1 percent) from 1980.

Total wage and salary employment in the county averaged 19,070 from 1984 through 1988. Wholesale and retail trade, government, and lumber and wood products sectors make up 67 percent of employment in Klamath. Unemployment averaged 10.4 percent during that period, which was 2.7 percent higher than the state. Per capita personal income from 1984 through 1988 averaged $11,382. Statewide per capita personal income averaged $13,322. BLM's input-output model (BLMPACT) shows that timber harvest from BLM-administered land in the resource area contributed an average of 255 direct and indirect jobs and $5.9 million of direct and indirect annual personal income during those years.

The 18 Oregon & California (O&C) counties in western Oregon receive half of the BLM receipts from O&C lands; these receipts are primarily from timber sales. Revenue from management of BLM-administered lands that are not O&C lands is also shared with local political subdivisions. The average revenue distribution to Klamath County from timber sales on O&C lands was $1.8 million, along with average total county property tax revenues of $3.1 million during the fiscal years 1983 to 1984 and 1987 to 1988.

Oregon's Regional Economic Development Strategy process encourages counties and other local governments to join together and develop a strategy that promotes economic growth and diversification in their region. Technology transfer is the strategy being developed by Klamath County. The BLM has not identified any management activities to date that could influence this strategy.

Rural Interface Areas

Introduction

The Klamath County planning office has zoned forest and adjacent lands for rural residential and other uses, which, in some situations, are incompatible with forest and range management activities. In this discussion, areas zoned for 1- to 20-acre lots and other areas of existing residential occupancy that include or adjoin BLM-administered land are referred to as rural interface areas. They are found throughout the lower elevations of the resource area.

Existing Conditions

The amount of BLM-administered land within these rural interface areas is shown in table 22.

In recent years, private landowners or land managers in these interface areas have expressed concerns about BLM management activities. Often, conflicts are resolved during project planning. When conflicts cannot be resolved, opposing parties may protest and appeal BLM actions.

Current Management Direction

Under the current management plans for the resource area two guidelines apply to rural interface areas: protect domestic water diversions if necessary and minimize management impacts in visually sensitive areas where possible. A detailed resource inventory for these values is used to design projects.

Table 22. BLM Acres in Rural Interface Areas

Zoning Categories In Interface Areas	BLM Acres Within 1/4-Mile	BLM Acres Within 1/2-Mile
Rural Residential 1-5 Acre Lots	2,800	4,000
Farm/Forest 6-20 Acre Lots	250	500

Management Opportunities

Minimize conflicts in rural interface areas by avoiding the use of management tools objectionable to landowners such as herbicide spraying, slash burning, and large clearcuts.

Dispose of highly fragmented BLM-administered land within rural interface areas.

Livestock Grazing

Existing Conditions and Current Management Direction

Early in 1982, the BLM implemented a grazing management policy to help assign management priorities among grazing allotments (see map 10). This approach to grazing management is known as selective management. Under this policy all of the grazing allotments within the Klamath Falls Resource Area (KFRA) have been categorized into three groups. The purpose of categorizing the allotments is to direct management efforts and funding to the areas of greatest need. The three categories are "I" improve, "M" maintain, and "C" custodial. The category name refers to the management objective. The objective for the "I" category is to improve unsatisfactory conditions; for the "M" category to maintain satisfactory conditions, and for the "C" category, to manage in a custodial manner to prevent deterioration of current resource conditions.

The primary criteria used in classifying allotments are ecological condition, resource conflicts, economic feasibility of investments in range improvements, and the land ownership pattern as it affects BLM management capabilities. Table 23 shows the allotment categorization in the KFRA.

Livestock grazing on lands in the KFRA is managed under the principles of multiple use and sustained yield. The selective management policy identifies the "I" allotments as having the greatest need and potential for improving existing range conditions. Therefore efforts are concentrated on improving the "I" allotments. Then management direction shifts to maintaining or improving "M" allotments. Custodial allotments only receive management efforts to prevent deterioration of current resource conditions.

Management Opportunities

Continue developing short-duration, high-intensity grazing systems on section 3 public lands in the Gerber block to improve riparian and wetland resources. Construct new fences and reservoirs to implement these grazing systems.

Pursue land exchanges on the remaining public lands in the resource area and those regulated by section 15 of the Taylor Grazing Act to block up larger areas of public land to improve and accelerate multiple use management.

Table 23. Summary of Allotment Categorization

Category	Number of Allotments	BLM-Administered land (Acres)	Active Preference Animal Unit Months (AUMs)
		West Side	
I - Improve	2	14,407	622
M - Maintain	0	0	0
C - Custodial	8	36,510	1,101
		East Side	
I - Improve	22	114,475	8,466
M - Maintain	3	5,353	303
C - Custodial	55	36,469	3,583
Total	**90**	**207,214**	**14,075**

Develop grazing systems on the "I" allotments to improve multiple use management in these allotments. Perform range improvements in these allotments including spring developments, fence and reservoir construction, and prescribed fire.

Possibly reduce the livestock forage capacity on many of the "I" allotments to allow for improvement of other resources in the allotment.

Wild Horses

Existing Conditions

The Pokegama Wild Horse Management Area (PWHMA) was designated in 1979. Aerial and ground surveys conducted in 1990 estimated the herd at 38 animals. The herd has been managed as a wild horse herd under the Wild Horse and Burro Act of 1971.

Current Management Direction

Current management direction for the herd is defined in the Draft Pokegama Wild Horse Management Area Plan. Annually, aerial surveys are conducted, and intensive ground surveys are conducted every two to three years. The PWHMA maintains a population of 30-50 animals, if the herd exceeds 50 animals then a portion of the horses are be gathered, based on statewide priorities.

Management Opportunities

Improve herd numbers with the introduction of new blood lines, and improve habitat.

Interrelationships With Other Agencies

Interagency coordination with other federal, state, and local government agencies is required by BLM regulations (43 CFR Part 1610.3). Many of the formal coordination relationships between the BLM and these other government agencies or units have been established through memoranda of understanding (with Interior Department agencies) and interagency agreements (all discussed hereafter as agreements). A number of these have been approved by the director of the Bureau and are sufficiently detailed to preclude the need for state office or district office level agreements. Some national level agencies have supplemental agreements with state and local agencies. In addition, the state director has approved independent state level agreements, while the district manager has approved agreements with county governments.

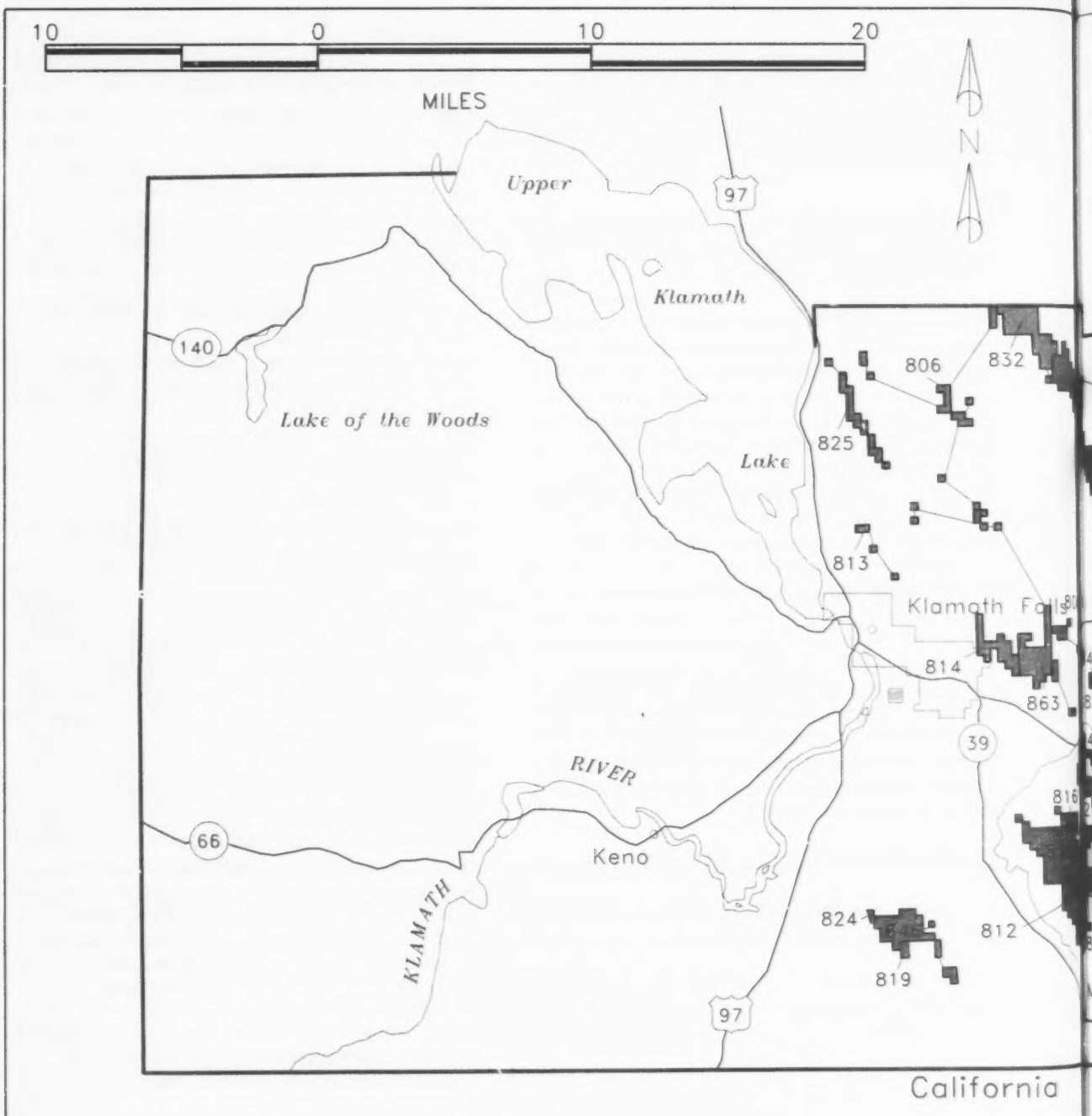
In general, these agreements deal with mechanisms for coordination, consultation, and document consistency; therefore, they do not constrain resource allocations or management direction unless they are non-discretionary—that is, mandated by federal law, executive order, or treaties. Some local agreements are very specific and involve techniques for managing public lands to meet detailed objectives for plant and animal habitat, research projects, big game transplants, or multi-purpose communication sites. Any agreement element that is discretionary can be modified as a consequence of the RMP process. Such agreements normally contain standard "escape clauses" that operate in the event of inadequate funding, discovery of contradiction with federal law, or the need to amend or revise the agreement due to newly approved plans, changes in resource condition, etc.

Relevant coordination occurs with the following agencies regarding the activities noted:

Bonneville Power Administration—regarding identification and evaluation of regional utility corridor options.

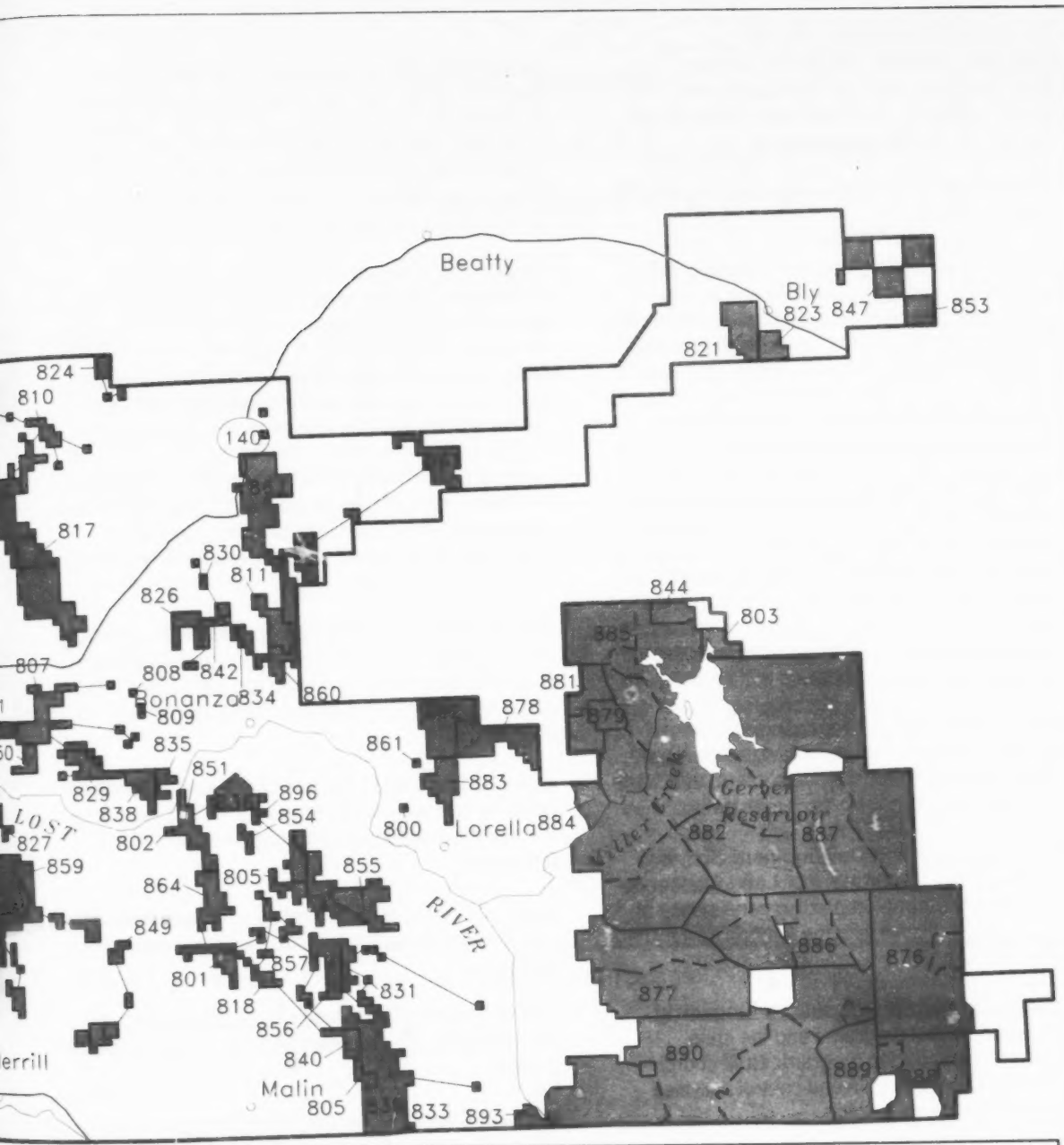
Federal Energy Regulatory Commission—regarding the licensing of the proposed Salt Caves hydroelectric project on the upper Klamath River.

Klamath River Compact Commission—regarding distribution and use of water in the upper Klamath River Basin.



Klamath Falls Resource Area
Lakeview District
1990 AMS Summary

MAP 10: LIVESTOCK GRAZING
ALLOTMENT BOUNDARIES



LEGEND

- Resource Area Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- Planning Area Boundary
- Highway
- Stream
- Urban Area
- City
- Allotment Boundary
- Pasture Boundary

National Park Service —regarding planning and activities that could affect an identified inventory or study river's ability to meet Wild and Scenic Rivers Act eligibility or classification criteria.

Soil Conservation Service—regarding the National Cooperative Soil Survey.

U.S. Army Corps of Engineers—regarding the Corps' authority, under the Clean Water Act, to regulate the discharge of dredged or fill materials into any wetland or stream with a flow in excess of five cubic feet per second.

U.S. Bureau of Reclamation—regarding plans, activities, and projects on adjacent lands.

U.S. Fish and Wildlife Service—regarding plans and activities that may affect a federal threatened, endangered, or proposed threatened or endangered species or its critical habitat, or a federal candidate species.

U.S. Forest Service—regarding plans, activities, and projects on adjacent lands.

Division of State Lands—regarding BLM compliance with Oregon's Removal-Fill law, which regulates removing and filling of materials from and in the waters of the state.

Land Conservation and Development Commission, through the Department of Land Conservation and Development—regarding consistency of BLM plans and activities with the Oregon Statewide Planning Goals.

Oregon Department of Agriculture—regarding noxious weed control programs and the state endangered plant species program. BLM coordinates site-specific noxious weed control activities with local weed control districts.

Oregon Department of Environmental Quality—regarding BLM compliance with the Statewide Water Quality Management Plan, under the umbrella of Section 208 of the Federal Clean Water Act; and treatment and control of water pollution sources where they may be associated with BLM facilities.

Oregon Department of Fish and Wildlife—regarding planning and activities affecting fish and wildlife habitat.

Oregon Department of Forestry—regarding BLM compliance with the Oregon Forest Practices Act in the conduct of timber harvest, reforestation, road construction and maintenance, chemical applications, and slash disposal; BLM compliance with the statewide Smoke Management Plan and Visibility Protection Plan under the umbrella of the Federal Clean Air Act; and fire protection, for which the Oregon Department of Forestry is BLM's primary contractor in the planning area.

Oregon Department of Geology and Mineral Industries—regarding mined land reclamation on BLM-administered lands.

Oregon Department of Parks and Recreation—regarding management of BLM-administered land adjacent to state parks and state scenic waterways.

Oregon Department of Transportation, Highway Division—regarding road planning in the vicinity of federal and state highways. Similar cooperation takes place with county road departments regarding county road systems.

Oregon Energy Facility Siting Council—regarding any proposed power plant larger than 25 megawatts, proposed electric transmission line over 230 KV or proposed natural gas line at least 16 inches in diameter.

State Historic Preservation Office and Advisory Council on Historic Preservation—regarding sites protected by National Historic Preservation Act regulations.

State Marine Board—regarding consultation on state requirements for outfitters and boat ramps/docks.

City of Klamath Falls—regarding consultation on the license for the proposed Salt Caves hydroelectric project.

Klamath County—regarding consistency of BLM plans with acknowledged county comprehensive plans, as well as regarding a variety of BLM plans and activities that may affect county road systems, parks, and natural resource management activities. The BLM also participates in review of county planning actions in order to alert counties to potential conflicts and inconsistencies with BLM forest management plans or other plans.

The Klamath Indian Tribe—regarding consultation as required by the Archeological Resources Protection Act and the Historic Preservation Act. Also regarding plans or activities that may affect tribal interests, treaty rights, or traditional resource use areas.

Appendix 1

The Resource Management Planning Process

The Resource Management Plan (RMP) is a Land Use Plan as prescribed by the Federal Land Policy and Management Act of 1976. The RMP establishes in a written document:

- Land areas for limited, restrictive, or exclusive resource uses or for transfer from BLM administration;
- Allowable resource uses and related levels of production or use to be maintained;
- Resource condition goals and objectives to be reached;
- Program constraints and general management practices;
- Identification of specific activity plans required;
- Support actions required to achieve the above;
- General implementation schedule; and
- Intervals and standards for monitoring the plan to determine its effectiveness.

The underlying goal of the RMP is to provide efficient on-the-ground management of public lands and associated resources.

The procedure for preparing an RMP involves nine interrelated actions as shown in table 1-1. Some actions may occur simultaneously and it may be necessary to repeat an action if additional information becomes available. The plan that results from this process is a general decision document designed primarily to help district and area managers make decisions, and to guide the efforts of staff on a day-to-day basis. Where more detailed management direction is required, specific activity plans will be prepared after the RMP is completed.

Table 1-1. Resource Management Planning Process

Step	Anticipated Completion
1. Identification of Issues	Completed
2. Development of Planning Criteria	Completed
3. Inventory Data and Information Collection	Completed
4. Analysis of Management Situation	Completed
5. Formulation of Alternatives	Early 1991
6. Estimation of Effects	Summer 1991
7. Selection of a Preferred Alternative	
a. Draft RMP/EIS	Fall 1991
b. Final RMP/EIS	1992
8. Selection of the Resource Management Plan	Late 1992
9. Monitoring and Evaluation	Start 1993

Preparation of the Klamath Falls Resource Area RMP was initiated in May 1986 in the Medford District and readdressed in the spring of 1989 when a separate plan was to be done, with public involvement in the identification of preliminary planning issues and concerns. The first four steps of the RMP process have been completed, except for any modifications that may occur as a result of public review of this summary or the full AMS, located in the Klamath Falls Resource Area office.

After the plan is implemented, it will be monitored and evaluated on a continuing basis to assure that land management issues are being addressed as expected and that it is accomplishing its intended results.

Public involvement and consultation with affected state and local governments is required at several points in the RMP process. This consultation is essential so the final resource management plan will be as consistent as possible with state and local natural-resource-related plans, programs, and policies.

Appendix 2

Public Involvement in the Process So Far

Public involvement has been an integral part of the BLM's resource management planning (RMP) process from the outset. To date public involvement activities have included a series of information mailers or brochures, public meetings, open houses, field trips, distribution of planning documents, document review and comment periods, informal contacts, group meetings, written letters, and responses to comments.

The five original western Oregon districts (Salem, Eugene, Roseburg, Coos Bay, and Medford) began their efforts in May 1986 with a mailer that asked for comments on the type of public involvement activities that should be conducted in the planning process. In September 1987, the Medford District's eastern boundary was moved west from Highway 97 to the Klamath-Jackson county line. Administration of public lands between Highway 97 and the Klamath-Jackson county line (approximately 51,800 acres) were transferred from the Medford District to the Klamath Falls Resource Area (KFRA) of the Lakeview District. Early in 1989 it was decided that the KFRA would prepare a resource-area-wide RMP in conjunction with the other western Oregon districts. Although the KFRA began later than the other western Oregon districts, it is currently on the same schedule.

The KFRA began its public involvement in May 1989 with a mailer that outlined the overall planning schedule and requested comments on the first major planning step: Issue Identification. The BLM invited the public to identify issues or concerns they believed should be addressed in the RMP process. A news release announcing this step was printed in the Klamath Falls Herald and News. During this first planning step each western Oregon district hosted an open house to help acquaint local citizens with the planning process and schedule and to discuss issues related to the planning process. On June 5, 1989 nineteen people signed in at an open house in the KFRA office.

A draft State Director Guidance Document was mailed to all those who requested copies in May 1988. Proposed revisions to some elements of that guidance were shared with the original respondents for further comment in several letters during 1989 and 1990.

Appendix 3

Guidance for Formulation of Alternatives

Introduction

The purpose of alternatives is to identify a range of reasonable combinations of resource uses and management practices that respond to planning issues and provide management direction for all resources. Five common alternatives will be addressed in each RMP, to provide a consistent set of distinct choices among potential management strategies.

A no change from the existing land use plan alternative will also be addressed. This is the "no action" alternative. In the other alternatives all existing land use decisions not found valid for continued implementation after 1990 (through an analysis summarized in the Analysis of the Management Situation), will be reconsidered.

Common alternatives that identify specific management actions along District boundaries will be consistent. Examples include elk management areas, spotted owl corridors or visual corridors.

This Guidance for Formulation of Alternatives may be modified later based on information identified in the districts' analyses of the management situation, or refinements that flow from the districts' site-specific development of common alternatives.

Goals and Objectives of the Common Alternatives

The purpose of the goal and objective statements for the five common alternatives (A through E) is to guide development of specific criteria. Each alternative, if implemented, is intended to achieve or meet its goal. Goal and objective statements focus on general direction of alternatives rather than technical points in issue-related criteria for the alternatives. In each alternative all resource management values would be accommodated to the extent consistent with the primary goals and objectives for that alternative.

Specific Guidance on Common Alternatives

The common alternatives would differ primarily in the way they allocate primary uses of lands (for example, lands allocated to intensive forest management, and lands allocated to protection of riparian zones).

The discussion on pages 68 through 79 describes criteria for addressing each of the eleven planning issues in the formulation of the common alternatives. It also describes how land use allocations and management actions would vary in response to each issue. Within the specific constraints provided by the guidance for addressing each issue, the districts have flexibility to formulate the common alternatives as they consider appropriate to meet the goals and objectives of each alternative.

Klamath Falls Resource Area's Additions

The Klamath Falls Resource Area has both Oregon and California (O&C) grant lands west of Highway 97 (west side) and large blocks of public domain lands predominantly east of Highway 97 (east side); therefore, there are goals, objectives, and issues that are different from those for the other western Oregon BLM districts. This appendix describes those differences for each alternative, as well as adding two issues that are specific to the Klamath Falls Resource Area--range management and proposed hydroelectric or other alternative energy projects.

The goals and objectives for the five common alternatives have been supplemented to include the livestock grazing (forage) and proposed hydroelectric or other energy projects (other economically important values). This supplemental information is shown in bold print. In addition, references to anadromous fish have been changed to trout because there are no anadromous fish in the resource area.

The additions to the guidance for each issue (shown in bold print) address site-specific resource values that either do not exist or are not a concern for the rest of the western Oregon districts. This includes discussion of native plant communities (specific to the east side), Native American traditional use areas (specific to the resource area), forage utilization in riparian zones (specific to the east side); and the addition of two new issues--range management (mainly an east side issue, but it also affects lands on the west side of the resource area) and proposed hydroelectric or alternative energy projects (specific to the proposed hydroelectric project on the upper Klamath River and the four proposed pumped water storage projects in the resource area).

	Alternative A	Alternative B
GOALS:	Emphasize high production of timber, **forage,** and other economically important values on all lands to contribute to community stability.	**On lands west of Highway 97,** emphasize timber production **and other economically important values** to contribute to community stability consistent with the variety of other land uses such as fish and wildlife habitat, recreation, and scenic resources on O&C lands. Give equal consideration to all resource values on public domain lands. **On lands east of Highway 97, emphasize forage production and other economically important values to contribute to community stability consistent with the variety of other land uses such as fish and wildlife habitat, recreation, and scenic resources.**
OBJECTIVES:	• Produce the highest sustained yield of timber on all suitable forest lands legally available for harvest. • **Produce the highest sustained yield of livestock forage on all suitable rangelands legally available for grazing.** • Manage threatened and endangered species habitat as legally required. • Contribute to ecological functions important to timber **and forage** productivity and to habitat diversity to the extent possible consistent with the allocation for timber **and forage** production. • Provide Research Natural Areas and eligible Areas of Critical Environmental Concern to the extent consistent with the allocation for timber **and forage** production. • Manage appropriate Congressionally designated areas to maintain and enhance their scenic values. • Meet legal requirements for protection of wetlands and water quality, to protect **trout** habitat and other relevant values. • Emphasize substantial developed and dispersed motorized recreation uses. Find no additional rivers suitable for designation under the Wild and Scenic Rivers Act. • Make land tenure adjustments which enhance BLM long-term sustained yield timber harvest **and forage** production opportunities. • Provide no special management in rural (residential) interface areas.	• Produce a high sustained yield of timber on O&C lands, and on public domain lands where nontimber uses and values are of lesser importance than timber production. • **On lands west of Highway 97, produce a sustained yield of livestock forage consistent with providing forage for wildlife and the Pokegama wild horse herd, and with other uses and values. On lands east of Highway 97, produce an high sustained yield of livestock forage consistent with providing forage for wildlife, and with other uses and values.** • Contribute to ecological functions important to timber **and forage** productivity and to habitat diversity using a system that maintains old growth and mature forest **and other native plant communities** in large and small blocks. • Protect habitat of all threatened and endangered species and species with high potential for listing. Protect habitat of other species of substantial concern, **such as critical deer winter range,** to the extent consistent with high timber **and forage** production. • Provide new Research Natural Areas (RNAs) and Areas of Critical Environmental Concern (ACECs) from eligible areas to the extent consistent with the emphasis on timber **and forage** production. • Manage scenic resources in selected areas of high recreation use. • Meet legal requirements for protection of wetlands and water quality and provide moderate additional protection for **trout** habitat, other substantial streams, and other water. • Provide for a wide range of developed and dispersed motorized recreation uses and opportunities, to minimize conflicts among recreation user groups. • Find eligible river segments suitable for designation as recreational, if they are important and manageable, and designation would not cause adverse economic impact. • **On lands west of Highway 97,** make land tenure adjustments which enhance BLM long-term sustained yield timber harvest opportunities on O&C lands, and which benefit a variety of uses and values on public domain lands. **On lands east of Highway 97, make land tenure adjustments which enhance long-term forage production opportunities consistent with a variety of other land uses.** • Adopt appropriate special forest/range management practices on BLM-administered lands intermingled with or adjacent to rural interface areas zoned for most dense residential occupancy.

Alternative C	Alternative D	Alternative E
Provide timber **and forage** production **and other economically important values** to contribute to community stability consistent with maintenance of biological diversity and the variety of other uses such as fish and wildlife habitat, recreation, and scenic resources on all lands.	Emphasize protection and reestablishment of spotted owl habitat **and riparian ecosystems,** along with management and enhancement of other values such as dispersed nonmotorized recreation opportunities and scenic resources, while sustaining some timber **and forage** production.	Emphasize protection of older forests **and native plant communities,** and management and enhancement of values such as dispersed nonmotorized recreation opportunities and scenic resources.
• Produce a moderate sustained yield of timber. • **Produce a moderate sustained yield of forage for livestock, wildlife, and the Pokegama wild horse herd consistent with allocations for other uses and values.** • Provide biological diversity using a system that maintains some old growth and mature forest, **and native plant ecosystems;** focusing on protection of areas where special status plant and animal species cluster. • Protect habitat of all threatened and endangered species and species with high potential for listing. Protect habitat of other species of substantial concern through emphasis on biological diversity and to the extent consistent with moderate timber **and forage** production. • Provide new RNAs and ACECs from eligible special areas except where lands managed by others are considered to provide more appropriate opportunities. • Manage scenic resources in selected high use areas, particularly emphasizing protection in corridors of existing and proposed wild and scenic rivers and major trails. • Provide substantial protection for **wetlands and riparian habitats, including trout habitat, along selected streams and other water environments.** • Provide for a wide range of recreation opportunities emphasizing dispersed use, while reducing conflicts among recreational user groups. • Find eligible river segments suitable for designation as scenic or recreational, if they are important and manageable, and designation would not cause adverse economic impact. • Make land tenure adjustments to benefit a variety of uses and values. • Adopt appropriate special forest/**range** management practices in rural interface areas zoned for moderate or high density residential occupancy.	• Produce a sustained yield of timber consistent with allocations for other uses and values. • **Produce a sustained yield of livestock forage while providing a high amount of forage to wildlife and the Pokegama wild horse herd.** • Protect habitat of the spotted owl in accordance with the Owl Conservation Strategy. • Protect habitat of all threatened and endangered species, species with high potential for listing, and species of related concern. • Provide new RNAs and ACECs from eligible special areas except where lands managed by others are considered to provide more appropriate opportunities. • Manage all identified scenic resources. • Provide substantial protection for wetlands and riparian **zones through changes in timber management and livestock grazing and/or exclusion of animals from these areas** along most streams and other water **environments.** • Emphasize dispersed nonmotorized recreation opportunities. • Find eligible river segments suitable for designation as wild, scenic or recreational, if they are important and manageable. • Make land tenure adjustments which would emphasize enhancement **of values and uses other than timber and forage.** • Adopt special timber harvest, forest, **and range** management practices in rural interface areas zoned for moderate or high density residential occupancy.	• Produce a sustained yield of timber consistent with allocations for other uses and values. • **Produce a sustained yield of livestock forage while providing the highest amount to wildlife and the Pokegama wild horse herd.** • Protect all old growth and older mature forests **and other important native plant communities.** • Protect habitat of all threatened and endangered species, species with high potential for listing and species of related concern. • Designate all eligible special areas as RNAs and ACECs. • Manage all identified scenic resources and provide some visual resource protection for all lands. • Manage all riparian **zones** and wetlands to maintain and improve water quality and fisheries habitat, and contribute to wildlife habitat diversity **through protection of riparian native plant communities.** • Emphasize dispersed nonmotorized outdoor recreation opportunities. • Find all eligible river segments suitable for designation as wild, scenic or recreational rivers. • Make land tenure adjustments which would emphasize enhancement of **uses and values other than timber and forage.** • Adopt special timber harvest, forest, **and range** management practices extensively buffering rural interface areas zoned for moderate or high density residential occupancy and other rural interface areas as appropriate.

	All Common Alternatives	Alternative A
Issue No. 1: Timber Production Practices: Which forest lands should be available for timber management, and what practices should be used on those lands?	Guidance for All Common Alternatives: Lands allocated to intensive forest management under any of these alternatives would normally provide the highest nondeclining harvest level (even flow) of timber when the following conditions prevail: • Effective silvicultural techniques (such as clear cutting, shelterwood or partial cutting) appropriate to the land allocations are used. • All feasible site preparation and intensive management practices are applied. • Anticipated merchantability is the only constraint on minimum average stand diameter slated for future harvest. • Adequate budgets are available to support the resultant timber sale program and allied intensive management practices, as well as scheduled monitoring linked to those activities. The common alternatives assume these practices and conditions on the lands allocated to intensive timber management, but incorporate less intensive management practices on other available forest lands to the extent needed to be consistent with the allocation of those lands. Where consistent with the goals and objectives of each alternative, the following silvicultural and harvest practices would be implemented on lands allocated primarily to timber management, to meet multiple land use objectives: Minimize regeneration delay by reforesting harvested sites as soon as practical. Calculate an empirical regeneration period based on representative stocking survey results, expected timber sale contract lengths and management objectives. Reforest harvested lands with indigenous commercial tree species. Emphasis would be placed on utilization of genetically improved stock, **where available**, in accordance with the Western Oregon Tree Improvement plan. Use available site preparation and seedling protection practices, including herbicides, using an integrated vegetation management approach. Emphasize those techniques that have proved most effective in assuring seedling survival and growth. (Actual practices will be based on site-specific analysis following completion of the RMP.) Convert to conifers those lands classified as commercial forest lands presently occupied by grass, hardwoods and brush.	Allocate all forest lands for timber production consistent with the management direction for other resources (Issue Nos. 2 and 3, etc.) in this alternative, except the following: Nonsuitable Woodland (See Figure 3-1 for Chart showing TPCC categories.)

Alternative B	Alternative C	Alternative D	Alternative E
Allocate all forest lands for timber production consistent with the management direction for other resources in this alternative, except the following: Nonsuitable Woodland Suitable Woodland - Low Site	Allocate all forest lands for timber production consistent with the management direction for other resources, except the following: Nonsuitable Woodland Suitable Woodland - Low Site Suitable Woodland - Nonsuitable Commercial Forest Land	Allocate all forest lands for timber production consistent with the management direction for other resources, except the following: Nonsuitable Woodland Suitable Woodland - All Categories	Allocate all forest lands for timber production consistent with the management direction for other resources, except the following: Nonsuitable Woodland Suitable Woodland - All Categories The Fragile Gradient-Restricted component of the Fragile Suitable TPCC category Site Class V

	All Common Alternatives	Alternative A
Issue No. 1 (Continued)	Plant hardwood **and juniper woodland** sites for management of a sustained yield of **forest products**, where consistent with allocations for other uses or values. Implement commercial thinning of present and future stands where practicable and where research indicates increased gains in timber production are likely. Practice initial spacing control of seedlings/ saplings through planting or thinning in conjunction with the control of competing vegetation, to maximize wood production by concentrating site resources in individual tree growth. Plan nitrogen fertilization applications for all present and future stands where research indicates increased wood yields would result. Plant specific root disease centers with resistant tree species, **where appropriate**. Consider uneven-age management in stands where this method would be economically feasible and would maintain environmental values. Consider efficiency of field operations and assurance of prompt reforestation in selecting the size of timber harvest units. Apply proper soil management measures to maintain or **enhance** soil productivity.	
Issue Nos. 2 and 3: Old-Growth Forests and Habitat Diversity To what extent and where should old-growth and/or mature forest habitats be retained, maintained or reestablished to meet various resource objectives? To what extent and where should BLM manage habitat to support populations of native wildlife species?	Any wildlife habitat management practice (such as nest boxes, road closures and forage seeding) not listed in the following could be implemented under any of the alternatives, as long as it is compatible with other management objectives. All special habitat features would be managed to protect their values. Mature and old-growth forests would be retained where Congressional designation of areas requires it. Snags and/or wildlife trees (to be converted to snags) would be retained where they occur on lands not allocated to timber harvest, except where public safety is a concern, and if left standing as nonmerchantable material on available forest lands. Where it would contribute to meeting wildlife tree objectives, create snags in areas not allocated primarily to timber production. A habitat goal of timber sale contracts would be to leave all snags and **mature** nonmerchantable trees that can be left consistent with safety considerations.	Mature and old-growth forests **and other native plant communities** would be retained on most lands excluded from planned timber harvest by inclusion in the following allocations and TPCC categories: Nonsuitable Woodland Riparian Management Areas Existing high-use recreation sites T&E species recovery areas where timber harvest is prohibited Wilderness Areas

Alternative B	Alternative C	Alternative D	Alternative E
Contribute to habitat diversity using a system that protects mature and old-growth forest **and native plant communities** in large and small blocks. Mature and old-growth components of the forest would be distributed in a corridor system by seed zone and elevation. In the corridor system large blocks of approximately 640 acres would be connected by a series of small, stepping stone blocks of approximately 80 acres, spaced at about one-mile intervals. Blocks would be limited to defined corridor areas. Public Domain lands **west of Highway 97** and the following allocations and TPCC categories **resource area wide** would receive priority for placement into the system, to the extent that they fit; for instance, if they provide needed habitat and are suitably located to contribute to the system. Nonsuitable Woodland Suitable Woodland - Low Site Riparian Management Areas Recreation Sites T&E species recovery areas where timber harvest is prohibited Special Areas (Natural Areas, ACECs) Wilderness Areas	This alternative would provide for intensive management of wildlife habitat and maintenance of biological diversity. It would strive to attain a balance of forest seral stages and associated plant and animal communities. Varying sized blocks of mature and old-growth forests would be spatially distributed over BLM-administered land, focusing on protection of identified areas where special status plants and animal species cluster. Where clustering is not apparent, alternative design would focus on seral stage balance and spatial distribution. The old-growth stands and other stands intended to attain old-growth status would be excluded from timber harvest except where other management is appropriate to benefit the special status species. Public Domain lands and the following allocations and TPCC categories on O&C would receive priority for placement into the system, to the extent that they are suitably located: Nonsuitable Woodland Suitable Woodland - Low Site Suitable Woodland - Nonsuitable Commercial Forest Land	This alternative would manage habitats on BLM-administered lands to provide for a number and distribution of spotted owls that ensures continued existence of a well distributed population on those lands, so they may interact with spotted owls throughout the geographic range of the species, as recommended by the Conservation Strategy for the Northern Spotted Owl. Suitable wildlife trees would be retained to contribute to the maintenance of cavity-dweller populations on BLM-administered lands at 60 percent of the optimum population level. Wildlife tree and down log management practices would be used on the available forest lands, including but not limited to retention of green culls, snags and down logs. All special habitat features would be appropriately buffered. **Protect native plant communities, which will provide habitat for a diversity of native wildlife species.**	This alternative would preserve the following: - all existing forest stands over 150 years old. - additional lands proximate to the above stands, to assist in maintaining natural ecological elements, protect the older stands from edge effect and natural disaster, and interconnect them into a sustainable network. - within two miles of each spotted owl nest or habitat core occupied by a pair of owls in the last three years, at least the acreage (where available) of suitable habitat considered to provide a high probability of continued occupancy by a pair of owls. In addition to retention of wildlife trees on lands not allocated to timber management, suitable wildlife trees would be retained to contribute to the maintenance of cavity-nester populations at 60 percent of the maximum potential population level on lands allocated

	All Common Alternatives	Alternative A
Issue Nos. 2 and 3 (Continued)		
Issue No. 4: Threatened and Endangered (and Other Special Status) Species Habitat What should BLM do to manage Federally listed threatened or endangered plants and animals and to prevent future Federal listing of plants and animals as threatened or endangered species?	Protect, monitor and manage habitats of Federal listed and proposed species in accordance with the Endangered Species Act and recovery plans, as legally required for self-sustaining survival.	Timber production constraints would be assumed in the formulation of the alternative only if critical habitat has been designated or there is a recovery or conservation plan within a month after completion of the Analysis of the Management Situation. Manage for the conservation of, and mitigate actions to protect habitats of, Federal Candidate, State Listed and Bureau Sensitive species where such actions would not diminish commercial use such as timber production.
Issue No. 5: Special Areas What areas on BLM-administered lands need special management to prevent irreparable damage to important historic, cultural or scenic values; **to protect Native American traditional use areas;** to protect botanical or fish and wildlife resources or other natural systems or processes; and to protect life and safety from natural hazards? Which of these areas should be formally designated as Areas of Critical Environmental Concern (ACEC)?	Any areas considered appropriate for Research Natural Area (RNA) designation would also be considered appropriate for ACEC designation.	Designate potential ACECs that meet criteria only if the relevant values are not protected by other authorities (e.g., Wild River designation, the Endangered Species Act). Potential ACECs that meet the preceding standard, including proposed RNAs, would be designated on nonforest lands or nonsuitable woodlands of no substantial mineral potential. **Protect other special areas which do not meet ACEC criteria (e.g. cultural resource sites, Native American traditional use areas, native plant communities) to the minimum required by federal law.**

Alternative B	Alternative C	Alternative D	Alternative E
Suitable wildlife trees and/or snags would be retained to contribute to the maintenance of cavity-dweller populations on BLM administered lands at 40 percent of the optimum population level. Wildlife tree management practices would be used on the available forest lands, including retention of **mature** green culls and snags. **Maintain a variety of existing native plant communities, which also provide habitat for a diversity of native wildlife species.**	Riparian Management Areas Recreation Sites T&E species recovery areas where timber harvest is prohibited Special Areas (Natural Areas, ACECs) Wilderness Areas Also incorporated would be a system of experimental habitat management areas (HMAs) established at strategic locations on BLM-administered lands, selected from proposed Category I and 2 HCAs in the scientific committee's Spotted Owl Conservation Strategy and other key spotted owl habitats. A habitat management plan prepared for each HMA would specify strategies for intensively managing the habitat for the long term existence of the spotted owl, including transplanting owls from one area to another, silvicultural practices to enhance habitat for owls and other appropriate measures. Suitable wildlife trees would be retained to contribute to the maintenance of cavity-dweller populations on BLM administered lands at 60 percent of the optimum population level. Wildlife tree and down log management practices would be used on the available forest lands, including but not limited to retention of **mature** green culls, snags and down logs. All special habitat features would be appropriately buffered.		to timber management. Wildlife tree and down log management practices would be used on the available forest lands, including but not limited to retention of green culls, snags and down logs. All special habitats would be appropriately buffered. **Manage vegetation to protect or enhance a wide variety of native plant communities, which will provide habitat to the greatest variety of native wildlife species.**
Same as Alternative A, except protect habitats of Federal Candidate, State Listed and Bureau Sensitive Species to the full extent on public domain land, and protect habitats of Federal Candidate (i.e., Category 1 and 2) species known only to occur on BLM-administered lands to the extent considered necessary to prevent their federal listing.	Same as Alternative B except for additional protection of special status species provided by criteria for Issues 2 and 3.	Manage all BLM-administered lands to support the conservation and protection of all Federal Candidate, State Listed, and Bureau Sensitive species and their habitats.	Same as Alternative D.
Designate potential ACECs that meet criteria only if the relevant values are not protected by other authorities. Do not allocate new RNAs on available O&C land if a similar feature can be protected on a National Forest. Designate all potential ACECs on Public Domain lands, nonforest lands, nonsuitable woodlands, and other lands allocated to nontimber uses. **Manage other special areas which do not meet ACEC criteria (e.g. cultural resource sites, Native American traditional use areas, native plant communities) with an emphasis on timber or forage production unless protected by federal law.**	Designate potential ACECs that meet criteria only if the relevant values are not protected by other authorities. **Protect other special areas which do not meet ACEC criteria if they have a recognized value for recreational, scientific, or Native American traditional use, or other uses.**	Designate all potential ACECs. **Actively identify and protect other special areas which do not meet ACEC criteria if they have recognized values for recreational, scientific, or Native American traditional use, or other uses.**	**Designate all potential ACECs. Actively identify and and protect other special areas which do not meet ACEC criteria. Protect or enhance other special areas for recreational, scientific, or Native American traditional use, or other uses.**

	All Common Alternatives	Alternative A
Issue No. 6: Visual Resources Which, if any, areas of BLM lands should be managed to reduce visual impacts or enhance visual (scenic) quality?	Note: Guidance for Issue 11 (Rural Interface Area Management) also addresses and defines visual resource management for Alternatives B, C, D and E in rural interface areas, except where this Issue 6 guidance sets a higher standard of visual resource management. Guidance for Issue 9A (Wild and Scenic Rivers) establishes criteria that will substantially dictate visual resource management by alternative in proposed wild and scenic river corridors. See Issue 9A and Issue 11 guidance for details.	Provide VRM Class I management within existing boundaries designated by Congress for exclusive management. Manage all other available (for timber harvest) forest land under VRM Class IV management objectives. Manage other lands as inventoried.
Issue Nos. 7 and 8: Stream/Riparian/Water Quality Where and how should riparian zones be managed to protect and improve water quality, fisheries and wildlife habitat? What actions should be undertaken to comply with state water quality standards? What should BLM do to manage for special needs such as municipal and domestic use?	Guidance for All Common Alternatives: Establish Riparian Management Areas (RMAs) on perennial **and other important streams** (generally, 3rd order and larger streams), lakes, ponds and other waters, to meet Oregon Forest Practices Act requirements and Oregon water quality standards. Typical average widths of RMAs by alternative are displayed in Table 3-1. Within those RMAs no lands would be considered "available" (to offer timber for sale as part of the allowable sale quantity). Some timber harvest may occur, however, to achieve resource management objectives. These activities may include road construction and yarding corridors across streams and riparian zones to facilitate timber harvest outside the RMA. Logging, road building and site preparation methods would be designed to minimize the number and/or size of mass soil movements and to maintain the integrity of the RMAs. Other activities such as mining, recreation and ORV use would be regulated to protect water quality. Stream and riparian habitat improvement measures may be taken on any streams to improve water quality, fish habitat and/or wildlife habitat. Activities would be designed to meet Oregon Forest Practices Act (OFPA) requirements and Oregon water quality standards. Comply with written agreements with public water systems serving municipalities.	**Manage forage utilization in riparian zones to meet minimum water quality standards and maximize forage production.**
Issue No. 9: Recreation Resources What areas or sites should be designed and/or managed to protect or enhance a variety of recreational opportunities?	Manage for dispersed recreation activities consistent with managed forest settings, including hunting, fishing, sightseeing, riding/hiking, and rafting. Maintain and manage existing recreation facilities which make available significant dispersed recreation opportunities, including recreation sites, boat ramps, trails, interpretive signs and related improvements. Manage existing Special Recreation Management Areas (SRMAs) and delineate Extensive Recreation Management Areas (ERMAs).	Manage existing high-use recreation sites and trails and expand them where needed. Close low use recreation sites and trails. Designate lands open to off-road vehicles (ORV) and leave roads open to motorized use, except where such designation would conflict with other allocations.

Alternative B	Alternative C	Alternative D	Alternative E
Provide VRM Class I management within existing boundaries designated by Congress for exclusive management. Manage as inventoried all available forest land adjacent to (within a quarter mile) developed recreation sites, state and federal highways, state scenic waterways, and rivers designated under the federal Wild and Scenic Rivers Act. Manage all other available forest land under VRM Class IV management objectives. Manage other lands as inventoried.	Same as Alternative B, except on available forest land where federal land ownership makes up more than half of a viewshed, manage lands as inventoried.	Manage all lands as inventoried.	Same as Alternative D, except manage as VRM Class III all BLM-administered lands inventoried as Class IV; and manage as VRM Class I BLM-administered lands adjacent to (within a quarter mile) developed recreation sites, state and federal highways, state scenic waterways and rivers designated under the federal Wild and Scenic Rivers act.
Manage forage utilization in riparian zones to meet minimum water quality standards while maximizing forage production consistent with other uses and values.	**Establish set utilization levels within selected riparian habitats while producing a moderate sustained yield of forage.**	**Protect selected riparian ecosystems by excluding livestock from those areas. Manage all other riparian zones through the use of intensive grazing management, thereby enhancing other values.**	**Protect or enhance riparian zones to achieve a healthy and productive ecological condition for maximum long-term multiple-use benefits and values.**

Table 3-1. Riparian Management Areas *as They Relate to Timber Harvest and Road Construction Activities*

Stream Order	Average RMA Width* (each side of the stream in feet)				
	ALT. A	ALT. B	ALT. C	ALT. D	ALT. E
1					50
2				60	60
3	75	75	105	140	140
4	75	100	150	200	200
5	75	140	210	280	280
6	75	160	240	320	320
Lakes, Ponds & Other Waters	75	100	150	200	200

* Actual RMA widths would be determined by on-the-ground riparian vegetation, terrain and stream characteristics, but would be a minimum of 50 feet on all 3rd order and larger streams. First and second order streams would have RMAs designated if perennial or if the beneficial uses warrant.

Same as Alternative A, except support the State's Regional Economic Development Plan for the geographic area, retain options for new SRMAs and high value potential recreation sites and trails on Public Domain lands, maintain and/or improve all existing developed recreation sites, and consider reopening sites closed in recent years.	Allocate and manage new SRMAs. Continue management of all existing recreation sites and trails, and consider reopening sites closed in recent years. Emphasize wildlife viewing, interpretation and related old-growth forest recreation opportunities, both to attract nonlocal visitors and to serve local users. Retain options for future development of high value potential sites, trails and sightseeing opportunities. Impose additional ORV limitations or road closures to protect wildlife habitat or old-growth forest recreation opportunities, minimize conflicts with hikers and horseback riders, or meet other resource objectives.	Same as Alternative C, except manage for an optimum range of nonmotorized recreation. Retain options for future development of recreation sites and facilities for dispersed recreation opportunities. Retain existing pockets of old-growth forest that are both adjacent to and accessible from existing or potential recreation areas. Prohibit ORV and road use as appropriate to improve wildlife habitat or protect the ecosystem.	Same as Alternative D.

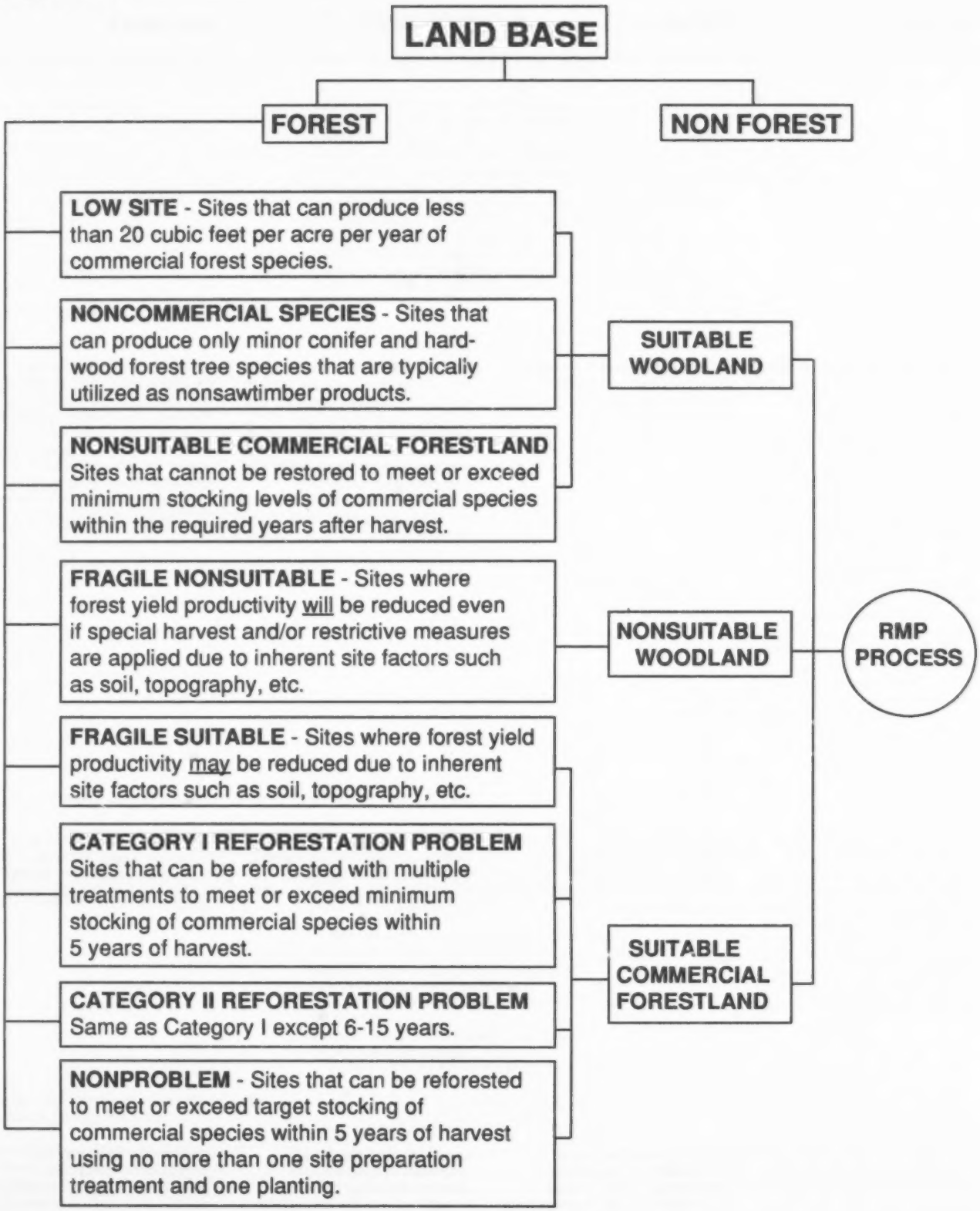
	All Common Alternatives	Alternative A
Issue No. 9A: Wild and Scenic Rivers What, if any, rivers should be found suitable for designation?	Provide interim protection for all river segments determined to be suitable, until Congressional action on BLM plan recommendations. Interim protection should be appropriate to the highest category for which the river is determined to be suitable. Manage Congressionally designated rivers consistent with their designation.	No rivers found suitable for designation under any classification.
Issue No. 10: Land Tenure In what areas would BLM-administered lands be sold, exchanged or transferred out of federal ownership under other authorities to improve management efficiency and benefit resource program objectives? In what areas would BLM attempt to acquire lands to improve management efficiency and benefit resource program objectives?	A major lands program effort would use exchanges to consolidate land ownership patterns to benefit one or more of the resources managed, such as timber, **range**, watershed, wildlife habitat, recreation, cultural, botanical, and minerals. Land tenure adjustment would be guided by a three-zone concept utilizing the following standards: Zone 1 includes areas currently identified as having high public resource values, and other efficiently managed lands. The natural resource values may require protection by federal law, Executive Order or policy. These lands may have other values or natural systems which merit long term public ownership. They do not meet the criteria for sale under FLPMA Section 203(a) and would generally be retained in public ownership. The Zone 1 boundaries should be relatively close to or on BLM property lines except where the intent is to show preferred acquisition areas. Zone 2 includes lands that are suitable for exchange because they form discontinuous ownership patterns, are less efficient to manage than Zone 1 lands, and may not be accessible to the general public. Where appropriate opportunities are identified, these BLM-administered lands may be exchanged for other lands in Zones 1 or 2, transferred to other public agencies, or given some form of cooperative management. These lands would not be expected to meet the criteria for sale under Section 203(a), and would not be identified as suitable for such sale. Zone 3 includes lands that are scattered and isolated with no known unique natural resource values. Zone 3 lands are available for use in exchanges for private inholdings in Zone 1 (high priority) or Zone 2 (moderate priority). They are also potentially suitable for disposal through sale	Exchanges would be made to acquire lands which would enhance the nondeclining harvest level of the commercial forest land managed by BLM, by improving age class distribution or other harvest level determination factors. **Exchanges would also be made to enhance long-term forage production**. Factors to consider include site quality, access to public forest land, logical logging units, and management of public forest land to facilitate timber harvest. No exchanges would be made to acquire lands more valuable for nontimber/**non-forage** uses. No commercial timberland or rangeland would be sold or leased. Leases or conveyance of land in Zones 2 and 3 other than commercial timberland **or rangeland** would be made under the Recreation and Public Purposes Act to provide appropriate facilities or services.

Alternative B	Alternative C	Alternative D	Alternative E
No rivers found suitable for designation as wild or scenic. River segments eligible for wild, scenic or recreational classification found suitable for designation as recreational, if all of the following circumstances exist: - no net adverse economic impacts on the local economy. - river segment possesses at least one outstandingly remarkable value for which it is considered by BLM to be the top river in the State Comprehensive Outdoor Recreation Plan (SCORP) region. - BLM can effectively manage the outstanding values of the river segment.	River segments eligible for scenic or recreational river status found suitable for designation consistent with their highest potential classification, and river segments eligible for wild classification found suitable for designation as scenic, if all of the following circumstances exist. If only the economic impact test is not met, find suitable for designation as recreational. - no net adverse impacts on the local economy. - river segment possesses at least one outstandingly remarkable value for which it is considered by BLM to be among the top two rivers in the SCORP region. - BLM can effectively manage the outstanding values of the river segment.	Eligible river segments found suitable for designation consistent with their highest potential classification if the following circumstances exist. - river segment possesses at least one outstandingly remarkable value for which it is considered by BLM to be among the top four rivers in the SCORP region. - BLM can effectively manage the outstanding values of the river segment.	All eligible river segments found suitable for designation consistent with their highest potential classification.
Exchanges of O&C lands would be made primarily to acquire lands which would enhance timber management opportunities. Exchanges of public domain lands would be made to benefit one or more of the resources managed, including nontimber values. Sale of O&C lands other than available commercial forest lands, and of public domain lands, would be made to dispose of lands that meet any of the criteria of FLPMA Section 203(a). Leases on such lands would be made to accommodate other uses. Leases or conveyances under the Recreation and Public Purposes Act would be made in Zones 2 and 3 to provide appropriate facilities or services.	Same as Alternative B, except emphasis would also be given to exchanges of O&C lands that would contribute to conservation of biological diversity.	Land exchanges would be made to benefit one or more of the resources managed. Exchanges involving disposal of timber to acquire lands containing greater nontimber values would be emphasized. Sales of lands other than available commercial forest lands would be made to dispose of lands that meet criteria (1) or (2) of FLPMA Section 203(a), but sales of land that meet only criterion (3) would not be made. No lands would be leased, except leases and conveyances under the Recreation and Public Purposes Act would be made in Zones 2 and 3 to provide facilities or services for the benefit of the public.	Same as Alternative D.

	All Common Alternatives	Alternative A
Issue No 10. (Continued).	under FLPMA Section 203(a) if important recreation, wildlife, watershed, threatened or endangered species habitat, and/or cultural values are not identified during disposal clearance reviews and no viable exchange proposals for them can be identified. The discussion of Zone 3 lands must state which of the disposal criteria in FLPMA, Section 203(a), apply. Zone 3 lands would also be available for transfer to another agency or to local governments, as needed to accommodate community expansion and other public purposes.	
Issue No. 11: Rural Interface Area Management Which BLM-administered lands should be allocated to receive special management practices due to the concerns of residents who live in close proximity? (Rural interface areas are areas where BLM-administered lands are adjacent to or intermingled with privately owned lands where county zoning has created or allows for creation of lots as small as 1 to 20 acres. In most rural interface areas concerns of the residents are related to forest **and range** management practices, visual quality and potential affects on domestic water sources and water supplies.)		No special management actions except those that address other issues.
Issue No. 12: Range Management **What should the BLM's grazing management program be? Should the BLM maintain the existing management program, modify it, or provide more intensive management? How should available forage be allocated?**	**Where consistent with the goals and objectives of each alternative, the following range management practices could be implemented on lands allocated to forage production to meet multiple-use objectives:** **- remove competing vegetative cover such as juniper etc. through the use of mechanical methods, prescribed fire, or herbicides to increase forage production** **- develop waterspreaders to increase forage production** **- construct/develop a variety of range improvement projects** **- implement a variety of grazing systems.**	**Produce the highest sustained yield of livestock forage on all suitable rangelands.**
Issue No. 13: Proposed Hydroelectric or Alternative Energy Projects **What actions would the BLM take in response to proposed hydroelectric or alternative energy projects on BLM lands?**		**Issue rights-of-way for all proposed hydroelectric or alternative energy projects where they do not conflict with timber and forage production.**

Alternative B	Alternative C	Alternative D	Alternative E
On BLM-administered lands within one quarter mile of private lands in identified rural interface areas zoned for 1 to 5-acre lots, customary forest/**range** management practices would be altered, where realistically feasible, to mitigate the adjacent neighbors' concerns (i.e., management would look for alternative methods of practicing intensive forest/**range** management). Examples of management options include harvest regimes other than clearcutting, hand application rather than aerial application of herbicides and pesticides, inclusion of additional buffers for domestic water sources, and hand piling slash for burning as opposed to broadcast burning. All BLM-administered lands within a quarter mile of designated rural interface areas 1 to 5-acre lots) would be managed for VRM class III objectives.	Same as Alternative B except that lands zoned for 1 to 20-acre lots would also be included as the rural interface area.	On BLM-administered lands within one quarter mile of private lands in rural interface areas zoned for 1 to 20-acre lots, there would be no herbicide spraying, or clear cutting, **and fuel hazards would be reduced with methods other than prescribed burning**. BLM-administered lands within this area would be managed for VRM class II objectives.	Same as Alternative D except BLM-administered lands within one half mile of private lands in rural interface areas would be managed as discussed in Alternative D. Areas zoned for lots larger than 20 acres, but with tax lots of 20 acres or less and/or existing legal multiple residences, may also be addressed in this alternative.
On lands west of Highway 97, produce a sustained yield of livestock forage consistent with providing forage for wildlife and the Pokegama wild horse herd, and with other uses and values. On lands east of Highway 97, produce a high sustained yield of livestock forage consistent with providing forage for wildlife, and with other uses and values.	**Produce a moderate sustained yield of forage for livestock, wildlife, and the Pokegama wild horse herd consistent with other uses and values.**	**Produce a sustained yield of livestock forage while providing a high amount of forage to wildlife and the Pokegama wild horse herd.**	**Produce a sustained yield of livestock forage while providing the highest amount to wildlife and the Pokegama wild horse herd.**
Issue rights-of-way for all proposed hydroelectric or alternative energy projects consistent with other land uses. On Public Domain lands west of Highway 97 give equal consideration to other resource values.	**Issue rights-of-way for all proposed hydroelectric or alternative energy projects consistent with the management direction for other resources.**	**Issue rights-of way for all proposed hydroelectric or alternative energy projects consistent with the management direction for other resources.**	**Deny all rights-of-way for proposed hydroelectric or alternative energy projects that conflict with any other resource value.**

Figure 3-1


LAND BASE
FOREST
NON FOREST
LOW SITE - Sites that can produce less than 20 cubic feet per acre per year of commercial forest species.
NONCOMMERCIAL SPECIES - Sites that can produce only minor conifer and hard-wood forest tree species that are typicaliy utilized as nonsawtimber products.
NONSUITABLE COMMERCIAL FORESTLAND Sites that cannot be restored to meet or exceed minimum stocking levels of commercial species within the required years after harvest.
SUITABLE WOODLAND
FRAGILE NONSUITABLE - Sites where forest yield productivity will be reduced even if special harvest and/or restrictive measures are applied due to inherent site factors such as soil, topography, etc.
NONSUITABLE WOODLAND
FRAGILE SUITABLE - Sites where forest yield productivity may be reduced due to inherent site factors such as soil, topography, etc.
CATEGORY I REFORESTATION PROBLEM Sites that can be reforested with multiple treatments to meet or exceed minimum stocking of commercial species within 5 years of harvest.
CATEGORY II REFORESTATION PROBLEM Same as Category I except 6-15 years.
NONPROBLEM - Sites that can be reforested to meet or exceed target stocking of commercial species within 5 years of harvest using no more than one site preparation treatment and one planting.
SUITABLE COMMERCIAL FORESTLAND
RMP PROCESS

Sensitivity Analyses

Sensitivity analysis is a process of examining specific trade-offs which would result from making changes in single sensitive elements of an alternative. Such analyses will be particularly helpful in developing the preferred alternative, to make it most effective in reconciling potential conflicts and optimizing overall benefits. The sensitivity analyses will have the further benefit of informing the public about certain trade-offs, which should facilitate their offering information preferences in their comments on the Draft RMP/EIS.

Sensitivity Analyses of Land Use Allocations

Some specific land-use allocations and other decision elements will be subjected to sensitivity analysis at the same time as preliminary analysis of impacts of the initial array of plan alternatives and prior to selection of a preferred alternative. This analysis will identify approximate opportunity costs associated with differing approaches to the most sensitive land use allocations and decision elements.

Because of the number of land use allocation issues and alternatives, sensitivity analysis must be tightly focused to be manageable. The analysis, therefore, will focus on mid-range alternatives. At a minimum, the following will be analyzed for Alternatives B, C and D and the preferred alternative:

- Effects on timber harvest (ASQ) and related jobs and county revenues, and on cavity dwellers, of substituting the next higher and next lower alternative levels of snag and wildlife tree protection, and of providing for no specific protection of cavity nesters on suitable forest or woodland.

- Effects on ASQ and related jobs and county revenues, and on other relevant values, of substituting the next higher and the next lower alternative levels of riparian zone protection, and of providing only legally required protection of riparian zones to preserve commercial trees on suitable forest or woodland.

- Effects on ASQ and related jobs and county revenues, and on spotted owl populations (number of pairs), of substituting the next higher and the next lower alternative levels of old growth and mature forest protection, and of providing no specific old growth and mature forest protection on suitable forest or woodland.

The following additional sensitivity analyses will also be made:

- Analysis of Alternatives C and D to show the effects of substituting extended rotation of old growth forest in lieu of no harvest for those alternatives.

- Analysis of Alternative B to show the effects of placing all lands allocated primarily to timber production on a rotation of 150 years.

- Analysis of Alternative B to show the effects of partial retention of structural elements of habitat diversity in timber harvest units under even-aged management.

Other sensitivity analysis elements or increments may be added as deemed appropriate by a district.

Estimated effects on ASQ, together with resulting local employment and county revenues for each analysis, will be quantified and arrayed as in Table 3-2. Effects on other resource attributes will be quantified only where available analytical techniques are readily applicable. Otherwise, effects will be compared to relevant environmental consequence conclusions for the basic plan alternatives.

Sensitivity Analysis of Timber Management Prescriptions

For the preferred alternative, the following potential nondeclining timber harvest levels (even flow) or potential allowable sale quantities will be calculated and displayed. Attendant local employment and county revenues will be identified, along with the related long term sustained yield of timber, and any other relevant, identifiable effects.

1. The nondeclining harvest level under the conditions described in the first two paragraphs of Guidance for All Common Alternatives for Issue I.

2. The nondeclining harvest level if no stands younger than culmination of mean annual increment (CMAI) were planned for final harvest, and if all appropriate intensive management practices are applied. The number of years needed to reach CMAI would be determined separately for each selected site class, using appropriate growth and yield data simulation, such as the Stand Projection System Model or Organon. The site indexes to be used would be the same as those calculated from the extensive forest inventory and used in simulating growth and yield.

3. The nondeclining harvest levels if minimum average tree diameter of a stand to be harvested were constrained at 12 inches, at 16 inches, at 20 inches, and at 24 inches. The number of years needed to reach each size would be determined as in 2 above, based on growth and yield data.

Table 3-2. Sensitivity Analysis of Land Use Allocations (partial example using common alternatives)

Allocation or Decision Element	Base Alternative	Allocation or Element From Alternative	ASQ Change	Local Employment Change	County Revenue Change	Other Effect Changes
Snag and Wildlife Tree Protection	B,C	D No Protection				
	D	C E No Protection				
Riparian Zone Protection	B	A C				
	C	A B D				
	D	A C E				
Old Growth and Mature Forest Protection	B	C No Protection Partial Retention of Structure				
	C	B D No Protection Partial Retention of Structure Extended Rotation				
	D	C E No Protection Extended Rotation				
Timber Harvest Rotation Length	B	150 Year Minimum				

4. The nondeclining harvest level if each of the following intensive management practices were not used (A separate calculation for each prospectively foregone practice):

- planting of genetically improved stock
- fertilization
- precommercial thinning
- commercial thinning
- brush and hardwood conversion

5. The nondeclining harvest level if only the base program (site preparation, planting including genetically improved stock, protecting seedlings, and plantation release) were funded; and fertilization, precommercial thinning, commercial thinning and stand conversion were foregone.

6. The nondeclining harvest level if prescribed burning were prohibited or abandoned for other reasons.

7. The nondeclining harvest level if all use of herbicides to aid timber production were prohibited, or abandoned for other reasons.

8. The nondeclining harvest level that would result if 5, 6 and 7 all occurred.

9. The nondeclining harvest level that would result if currently forested commercial forest lands that are expected to be economically infeasible to harvest were removed from the available forest land base. (To be displayed only in plans where the potential harvest level for a sustained yield unit would change by more than 1 MMBF.)

10. The nondeclining harvest level if intensive management practices considered economically marginal were not used.

11. The harvest level that would result if a departure of as much as 10 percent above the nondeclining harvest level shown in sensitivity analysis 2 were selected, provided that any increase does not exceed the long term sustained yield capacity. The harvest level in subsequent decades must not fall more than one percent below the nondeclining harvest level for sensitivity analysis 2. The potential departure would not exceed that needed to match recent timber supply levels in the market area, as defined by the Local Market Model being developed at the PNW Research Station, USFS. The period for which departure would be calculated would be the period of anticipated regional timber supply deficiency identified for the market area in recent studies.

These sensitivity analyses will assist BLM in identifying a proposed set of prescriptions for the preferred alternative. They will also identify the impacts of possible future adjustments in timber management prescriptions that may occur as a result of actions outside BLM's control (see Table 3-3).

Table 3-3. Sensitivity Analysis of Timber Management Prescriptions, Preferred Alternative

Sensitivity Analysis	ASQ	Local Employment	County Revenue	Other Effects
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

*U.S. GOVERNMENT PRINTING OFFICE 1990-591-222/21610

United States
Department of the Interior
Bureau of Land Management
Klamath Falls Resource Area Office
2795 Anderson Avenue, Bldg. 25
Klamath Falls, Oregon 97603

First Class Rate
Postage and Fees Paid
U.S. Department of
the Interior
Permit No. G-76

Official Business
Penalty for Private Use, $300

Forwarding and Return Postage Guaranteed,
Address Correction Requested